

MONTECITO RANCH

APPENDIX Q

MODELING REQUIRED FOR POTENTIAL
EXTENSION OF SA 330

for the

DRAFT ENVIRONMENTAL IMPACT REPORT

SP01-001; TM 5250RPL⁶; P04-045;

LOG NO. 01-09-013; SCH NO. 2002021132

MAY 2008

Information for the Reader

The County Department of Public Works has requested that an analysis of the potential future SA 330 extension between Montecito Road and Main Street (SR 67) be completed. Although this extension is not proposed as part of the Montecito Ranch Project, information regarding anticipated design and environmental effects are provided within the EIR for review and comment in Section 5.8.6 of the EIR. Interested readers are referred to page 5-25 of this EIR for a detailed analysis of the potential future SA 330 extension.

This appendix provides technical noise and drainage modeling required for the analysis of the potential future SA 330 extension, as well as stormwater management best management practices and requirements. For the analyses on Resource Protection Ordinance compliance; biological, cultural, and agricultural resources; and aesthetics, readers are referred to the text in Section 5.8.6 of the EIR.

SA 330 EXTENSION:

NOISE INFORMATION

APPENDIX C

NOISE CONTOUR MODEL INPUTS AND CALCULATIONS (ROADWAY DESIGN OPTION 1)

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: SR-78
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	9,700 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	970 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297				
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006				
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:	109.950				
Left View:	-90.0 degrees	Medium Trucks:	109.869				
Right View:	90.0 degrees	Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.73	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-15.44	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-18.45	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.5	55.0	52.9	60.9	61.1
Medium Trucks:	58.8	57.0	52.5	50.4	58.4	58.6
Heavy Trucks:	61.1	59.3	54.7	52.7	60.6	60.9
Vehicle Noise:	65.3	63.5	59.0	56.9	64.9	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	106	336	1,063
CNEL:	36	114	360	1,137

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: SR-78
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 10,200 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 1,020 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet							
Barrier Distance to Observer: 10.0 feet		Noise Source Elevations (in feet)					
Observer Height (Above Pad): 5.0 feet		Autos:	0.000				
Pad Elevation: 0.0 feet		Medium Trucks:	2.297				
Road Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Grade: 0.0%							
Left View: -90.0 degrees		Lane Equivalent Distance (in feet)					
Right View: 90.0 degrees		Autos:	109.950				
		Medium Trucks:	109.869				
		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.51	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-15.22	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-18.23	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	59.8	55.2	53.1	61.1	61.4
Medium Trucks:	59.0	57.2	52.7	50.6	58.6	58.9
Heavy Trucks:	61.3	59.5	55.0	52.9	60.8	61.1
Vehicle Noise:	65.5	63.7	59.2	57.1	65.1	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	112	353	1,118
CNEL:	38	120	378	1,196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: SR-78
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	10,700 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	1,070 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos: 80.0% 7.0% 13.0% 94.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks: 80.0% 7.0% 13.0% 4.00%				
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks: 80.0% 7.0% 13.0% 2.00%				
Centerline Dist. to Observer:	110.0 feet					
Barrier Distance to Observer:	10.0 feet	Noise Source Elevations (in feet)				
Observer Height (Above Pad):	5.0 feet	Autos: 0.000				
Pad Elevation:	0.0 feet	Medium Trucks: 2.297				
Road Elevation:	0.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Road Grade:	0.0%					
Left View:	-90.0 degrees	Lane Equivalent Distance (in feet)				
Right View:	90.0 degrees	Autos: 109.950				
		Medium Trucks: 109.869				
		Heavy Trucks: 109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.30	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-15.01	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-18.02	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.7	60.0	55.4	53.3	61.3	61.6
Medium Trucks:	59.2	57.5	52.9	50.8	58.8	59.1
Heavy Trucks:	61.5	59.7	55.2	53.1	61.0	61.3
Vehicle Noise:	65.7	64.0	59.4	57.3	65.3	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	117	371	1,173
CNEL:	40	125	397	1,254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: 10th St.
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	7,000 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	700 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	95.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.10	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-16.85	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-22.87	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.9	58.2	53.6	51.5	59.5	59.8
Medium Trucks:	57.4	55.6	51.1	49.0	56.9	57.2
Heavy Trucks:	56.6	54.9	50.3	48.2	56.2	56.5
Vehicle Noise:	63.0	61.2	56.7	54.6	62.5	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	63	198	626
CNEL:	21	67	212	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-78)
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 23,300 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 2,330 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 55 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Height: 0.0 feet		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 110.0 feet		Autos:	0.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks:	2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment:	0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos:	109.950				
Road Grade: 0.0%		Medium Trucks:	109.869				
Left View: -90.0 degrees		Heavy Trucks:	109.877				
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.70	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-13.01	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-16.03	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.2	62.7	60.6	68.5	68.8
Medium Trucks:	65.9	64.1	59.6	57.5	65.5	65.8
Heavy Trucks:	66.9	65.1	60.6	58.5	66.4	66.7
Vehicle Noise:	72.2	70.5	65.9	63.8	71.8	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	166	525	1,660	5,248
CNEL:	178	561	1,775	5,614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,500 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,950 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.72	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-11.99	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-15.00	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.2	63.7	61.6	69.6	69.9
Medium Trucks:	66.9	65.2	60.6	58.5	66.5	66.8
Heavy Trucks:	67.9	66.1	61.6	59.5	67.5	67.8
Vehicle Noise:	73.2	71.5	66.9	64.8	72.8	73.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	210	664	2,101	6,645
CNEL:	225	711	2,248	7,108

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,300 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,730 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.38	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-12.33	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-15.34	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	67.9	63.4	61.3	69.2	69.5
Medium Trucks:	66.6	64.8	60.3	58.2	66.2	66.4
Heavy Trucks:	67.6	65.8	61.3	59.2	67.1	67.4
Vehicle Noise:	72.9	71.2	66.6	64.5	72.5	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	194	615	1,945	6,149
CNEL:	208	658	2,080	6,578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: Hunter St.- Proposed SA-330

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA			NOISE MODEL INPUTS				
Highway Data			Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,000 vehicles			Autos: 10				
Peak Hour Percentage: 10%			Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,700 vehicles			Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph			Vehicle Mix				
Near/Far Lane Distance: 12 feet							
Site Data			VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet			Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0			Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet			Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet			Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet			Autos:	0.000			
Observer Height (Above Pad): 5.0 feet			Medium Trucks:	2.297			
Pad Elevation: 0.0 feet			Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet			Lane Equivalent Distance (in feet)				
Road Grade: 0.0%			Autos:	109.950			
Left View: -90.0 degrees			Medium Trucks:	109.869			
Right View: 90.0 degrees			Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.72	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-10.99	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.00	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	64.0	59.4	57.3	65.3	65.6
Medium Trucks:	63.2	61.5	56.9	54.8	62.8	63.1
Heavy Trucks:	65.5	63.7	59.2	57.1	65.1	65.4
Vehicle Noise:	69.7	68.0	63.4	61.3	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	94	296	936	2,959
CNEL:	100	317	1,001	3,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: Proposed SA-330 - Highland Vall

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 27,000 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 2,700 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Height: 0.0 feet		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 110.0 feet		Autos:	0.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks:	2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos:	109.950				
Road Grade: 0.0%		Medium Trucks:	109.869				
Left View: -90.0 degrees		Heavy Trucks:	109.877				
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.72	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-10.99	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.00	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	64.0	59.4	57.3	65.3	65.6
Medium Trucks:	63.2	61.5	56.9	54.8	62.8	63.1
Heavy Trucks:	65.5	63.7	59.2	57.1	65.1	65.4
Vehicle Noise:	69.7	68.0	63.4	61.3	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	94	296	936	2,959
CNEL:	100	317	1,001	3,165

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 24,000 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 2,400 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.000				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:	109.950				
Left View: -90.0 degrees		Medium Trucks:	109.869				
Right View: 90.0 degrees		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.21	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-11.50	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.51	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	63.5	58.9	56.8	64.8	65.1
Medium Trucks:	62.7	61.0	56.4	54.3	62.3	62.6
Heavy Trucks:	65.0	63.2	58.7	56.6	64.6	64.8
Vehicle Noise:	69.2	67.5	62.9	60.8	68.8	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	263	832	2,630
CNEL:	89	281	890	2,813

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Main St. (SR-67)
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,000 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,500 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph						
Near/Far Lane Distance: 12 feet						
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.38	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-11.33	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.34	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.6	59.1	57.0	65.0	65.3
Medium Trucks:	62.9	61.1	56.6	54.5	62.5	62.8
Heavy Trucks:	65.2	63.4	58.8	56.8	64.7	65.0
Vehicle Noise:	69.4	67.6	63.1	61.0	69.0	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	274	866	2,740
CNEL:	93	293	927	2,931

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd. - Montecito Ranch

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	600 vehicles	Autos:		10		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		10		
Peak Hour Volume:	60 vehicles	Heavy Trucks (3+ Axles):		10		
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:		80.0%	7.0%	13.0% 95.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:		80.0%	7.0%	13.0% 4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:		80.0%	7.0%	13.0% 1.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:		0.000		
Observer Height (Above Pad): 5.0 feet		Medium Trucks:		2.297		
Pad Elevation: 0.0 feet		Heavy Trucks:		8.006	Grade Adjustment: 0.0	
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:		109.950		
Left View: -90.0 degrees		Medium Trucks:		109.869		
Right View: 90.0 degrees		Heavy Trucks:		109.877		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-13.77	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-27.52	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-33.54	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	47.5	42.9	40.9	48.8	49.1
Medium Trucks:	46.7	44.9	40.4	38.3	46.3	46.6
Heavy Trucks:	46.0	44.2	39.6	37.6	45.5	45.8
Vehicle Noise:	52.3	50.6	46.0	43.9	51.9	52.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	2	5	17	54
CNEL:	2	6	18	57

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	0 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	0 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-51.55	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-65.31	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-71.33	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	11.5	9.7	5.2	3.1	11.0	11.3
Medium Trucks:	8.9	7.2	2.6	0.5	8.5	8.8
Heavy Trucks:	8.2	6.4	1.9	-0.2	7.7	8.0
Vehicle Noise:	14.5	12.8	8.2	6.1	14.1	14.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS					
Highway Data				Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):		0 vehicles		Autos:		10			
Peak Hour Percentage:		10%		Medium Trucks (2 Axles):		10			
Peak Hour Volume:		0 vehicles		Heavy Trucks (3+ Axles):		10			
Vehicle Speed:		40 mph		Vehicle Mix					
Near/Far Lane Distance:		12 feet							
Site Data				VehicleType		Day	Evening	Night	Daily
Barrier Height:		0.0 feet		Autos:		80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):		0.0		Medium Trucks:		80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:		100.0 feet		Heavy Trucks:		80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:		110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer:		10.0 feet							
Observer Height (Above Pad):		5.0 feet		Autos:		0.000			
Pad Elevation:		0.0 feet		Medium Trucks:		2.297			
Road Elevation:		0.0 feet		Heavy Trucks:		8.006		Grade Adjustment: 0.0	
Road Grade:		0.0%		Lane Equivalent Distance (in feet)					
Left View:		-90.0 degrees							
Right View:		90.0 degrees		Autos:		109.950			
				Medium Trucks:		109.869			
				Heavy Trucks:		109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-51.55	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-65.31	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-71.33	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	11.5	9.7	5.2	3.1	11.0	11.3
Medium Trucks:	8.9	7.2	2.6	0.5	8.5	8.8
Heavy Trucks:	8.2	6.4	1.9	-0.2	7.7	8.0
Vehicle Noise:	14.5	12.8	8.2	6.1	14.1	14.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	0 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	0 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%	
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297				
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006				
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:	109.950				
Left View:	-90.0 degrees	Medium Trucks:	109.869				
Right View:	90.0 degrees	Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-51.55	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-65.31	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-71.33	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	11.5	9.7	5.2	3.1	11.0	11.3
Medium Trucks:	8.9	7.2	2.6	0.5	8.5	8.8
Heavy Trucks:	8.2	6.4	1.9	-0.2	7.7	8.0
Vehicle Noise:	14.5	12.8	8.2	6.1	14.1	14.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	0	0	0	0
CNEL:	0	0	0	0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Ash St.
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	500 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	50 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	95.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-14.56	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-28.32	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-34.34	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	46.7	42.1	40.1	48.0	48.3
Medium Trucks:	45.9	44.2	39.6	37.5	45.5	45.8
Heavy Trucks:	45.2	43.4	38.8	36.8	44.7	45.0
Vehicle Noise:	51.5	49.8	45.2	43.1	51.1	51.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	1	4	14	45
CNEL:	2	5	15	48

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Ash St.
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	500 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	50 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%	
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297				
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006				
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:	109.950				
Left View:	-90.0 degrees	Medium Trucks:	109.869				
Right View:	90.0 degrees	Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-14.56	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-28.32	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-34.34	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.5	46.7	42.1	40.1	48.0	48.3
Medium Trucks:	45.9	44.2	39.6	37.5	45.5	45.8
Heavy Trucks:	45.2	43.4	38.8	36.8	44.7	45.0
Vehicle Noise:	51.5	49.8	45.2	43.1	51.1	51.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	1	4	14	45
CNEL:	2	5	15	48

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Montecito Rd.
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	3,500 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	350 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	95.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.11	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-19.86	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-25.89	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	56.9	55.2	50.6	48.5	56.5	56.8	
Medium Trucks:	54.4	52.6	48.0	46.0	53.9	54.2	
Heavy Trucks:	53.6	51.9	47.3	45.2	53.2	53.5	
Vehicle Noise:	60.0	58.2	53.7	51.6	59.5	59.8	

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	31	99	313
CNEL:	11	33	106	335

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Montecito Rd.
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	6,000 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	600 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:		80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:		80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:		80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	10.0 feet	Autos:		0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:		2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:		8.006	Grade Adjustment: 0.0		
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:		109.950			
Left View:	-90.0 degrees	Medium Trucks:		109.869			
Right View:	90.0 degrees	Heavy Trucks:		109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.77	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-17.52	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-23.54	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.5	52.9	50.9	58.8	59.1
Medium Trucks:	56.7	54.9	50.4	48.3	56.3	56.6
Heavy Trucks:	56.0	54.2	49.6	47.6	55.5	55.8
Vehicle Noise:	62.3	60.6	56.0	53.9	61.9	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	54	170	536
CNEL:	18	57	181	574

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: SR-78
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	9,994 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	999 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.60	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-15.31	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-18.32	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	59.7	55.1	53.0	61.0	61.3
Medium Trucks:	58.9	57.2	52.6	50.5	58.5	58.8
Heavy Trucks:	61.2	59.4	54.9	52.8	60.8	61.0
Vehicle Noise:	65.4	63.7	59.1	57.0	65.0	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	110	346	1,095
CNEL:	37	117	370	1,172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: SR-78
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 12,024 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 1,202 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet							
Barrier Distance to Observer: 10.0 feet		Noise Source Elevations (in feet)					
Observer Height (Above Pad): 5.0 feet		Autos:	0.000				
Pad Elevation: 0.0 feet		Medium Trucks:	2.297				
Road Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Grade: 0.0%							
Left View: -90.0 degrees		Lane Equivalent Distance (in feet)					
Right View: 90.0 degrees		Autos:	109.950				
		Medium Trucks:	109.869				
		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.79	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-14.50	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-17.52	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.5	55.9	53.8	61.8	62.1
Medium Trucks:	59.7	58.0	53.4	51.3	59.3	59.6
Heavy Trucks:	62.0	60.2	55.7	53.6	61.6	61.8
Vehicle Noise:	66.2	64.5	59.9	57.8	65.8	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	132	417	1,318
CNEL:	45	141	446	1,409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: SR-78
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 12,054 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 1,205 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily	
Site Data		Autos: 80.0% 7.0% 13.0% 94.00%					
Barrier Height: 0.0 feet		Medium Trucks: 80.0% 7.0% 13.0% 4.00%					
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 80.0% 7.0% 13.0% 2.00%					
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)					
Centerline Dist. to Observer: 110.0 feet		Autos: 0.000					
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 2.297					
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Elevation: 0.0 feet		Autos: 109.950					
Road Grade: 0.0%		Medium Trucks: 109.869					
Left View: -90.0 degrees		Heavy Trucks: 109.877					
Right View: 90.0 degrees							

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.78	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-14.49	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-17.50	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	62.2	60.5	55.9	53.8	61.8	62.1	
Medium Trucks:	59.7	58.0	53.4	51.3	59.3	59.6	
Heavy Trucks:	62.0	60.2	55.7	53.6	61.6	61.9	
Vehicle Noise:	66.2	64.5	59.9	57.8	65.8	66.1	

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	132	418	1,321
CNEL:	45	141	447	1,413

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: 10th St.
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	7,479 vehicles	Autos: 10					
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10					
Peak Hour Volume:	748 vehicles	Heavy Trucks (3+ Axles): 10					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
	Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
	Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
	Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
	Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:		0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad):	5.0 feet	Medium Trucks:		2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:		8.006			
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:		109.950			
Left View:	-90.0 degrees	Medium Trucks:		109.869			
Right View:	90.0 degrees	Heavy Trucks:		109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.81	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-16.57	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-22.59	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.2	58.4	53.9	51.8	59.8	60.1
Medium Trucks:	57.7	55.9	51.3	49.3	57.2	57.5
Heavy Trucks:	56.9	55.2	50.6	48.5	56.5	56.8
Vehicle Noise:	63.3	61.5	57.0	54.9	62.8	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	67	211	668
CNEL:	23	71	226	715

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-78)
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS							
Highway Data		Site Conditions (Hard = 10, Soft = 15)							
Average Daily Traffic (Adt): 23,594 vehicles		Autos: 10							
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10							
Peak Hour Volume: 2,359 vehicles		Heavy Trucks (3+ Axles): 10							
Vehicle Speed: 55 mph		Vehicle Mix							
Near/Far Lane Distance: 12 feet									
Site Data		VehicleType	Day	Evening	Night	Daily			
		Autos:	80.0%	7.0%	13.0%	94.00%			
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%			
		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%			
		Noise Source Elevations (in feet)							
Barrier Height: 0.0 feet		Autos:	0.000	Grade Adjustment: 0.0					
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	2.297						
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	8.006						
Centerline Dist. to Observer: 110.0 feet		Lane Equivalent Distance (in feet)							
Barrier Distance to Observer: 10.0 feet									
Observer Height (Above Pad): 5.0 feet		Autos:	109.950						
Pad Elevation: 0.0 feet		Medium Trucks:	109.869						
Road Elevation: 0.0 feet		Heavy Trucks:	109.877						
Road Grade: 0.0%									
Left View: -90.0 degrees									
Right View: 90.0 degrees									

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.75	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-12.96	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-15.97	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.3	62.7	60.6	68.6	68.9
Medium Trucks:	66.0	64.2	59.6	57.6	65.5	65.8
Heavy Trucks:	66.9	65.2	60.6	58.5	66.5	66.8
Vehicle Noise:	72.3	70.5	66.0	63.9	71.8	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	168	531	1,681	5,315
CNEL:	180	569	1,798	5,685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,206 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,021 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph						
Near/Far Lane Distance: 12 feet						
		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	94.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.82	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-11.89	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-14.90	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.4	63.8	61.7	69.7	70.0
Medium Trucks:	67.0	65.3	60.7	58.6	66.6	66.9
Heavy Trucks:	68.0	66.2	61.7	59.6	67.6	67.9
Vehicle Noise:	73.4	71.6	67.0	64.9	72.9	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	215	680	2,152	6,804
CNEL:	230	728	2,302	7,279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,947 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,795 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.49	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-12.23	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-15.24	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	68.0	63.5	61.4	69.3	69.6
Medium Trucks:	66.7	64.9	60.4	58.3	66.3	66.5
Heavy Trucks:	67.7	65.9	61.4	59.3	67.2	67.5
Vehicle Noise:	73.0	71.3	66.7	64.6	72.6	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	199	630	1,991	6,295
CNEL:	213	673	2,130	6,734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: Hunter St.- Proposed SA-330

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,647 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 2,765 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph						
Near/Far Lane Distance: 12 feet						
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.82	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-10.89	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-13.90	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	64.1	59.5	57.4	65.4	65.7
Medium Trucks:	63.3	61.6	57.0	54.9	62.9	63.2
Heavy Trucks:	65.6	63.8	59.3	57.2	65.2	65.5
Vehicle Noise:	69.8	68.1	63.5	61.4	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	303	958	3,030
CNEL:	102	324	1,025	3,241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: Proposed SA-330 - Highland Vall

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 28,471 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 2,847 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.000	Grade Adjustment: 0.0			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006				
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:	109.950				
Left View: -90.0 degrees		Medium Trucks:	109.869				
Right View: 90.0 degrees		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.95	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-10.76	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-13.77	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.2	59.6	57.6	65.5	65.8
Medium Trucks:	63.5	61.7	57.1	55.1	63.0	63.3
Heavy Trucks:	65.7	64.0	59.4	57.3	65.3	65.6
Vehicle Noise:	70.0	68.2	63.6	61.6	69.5	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	99	312	987	3,120
CNEL:	106	334	1,055	3,337

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 25,059 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 2,506 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.000				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:	109.950				
Left View: -90.0 degrees		Medium Trucks:	109.869				
Right View: 90.0 degrees		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.39	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-11.32	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.33	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.7	59.1	57.0	65.0	65.3
Medium Trucks:	62.9	61.2	56.6	54.5	62.5	62.8
Heavy Trucks:	65.2	63.4	58.9	56.8	64.7	65.0
Vehicle Noise:	69.4	67.6	63.1	61.0	69.0	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	275	868	2,746
CNEL:	93	294	929	2,938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Main St. (SR-67)
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	25,883 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	2,588 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 80.0% 7.0% 13.0% 94.00%				
Barrier Height:	0.0 feet	Medium Trucks: 80.0% 7.0% 13.0% 4.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 80.0% 7.0% 13.0% 2.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	110.0 feet	Autos: 0.000				
Barrier Distance to Observer:	10.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 109.950				
Road Grade:	0.0%	Medium Trucks: 109.869				
Left View:	-90.0 degrees	Heavy Trucks: 109.877				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	2.54	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-11.18	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-14.19	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.8	59.2	57.2	65.1	65.4
Medium Trucks:	63.1	61.3	56.7	54.6	62.6	62.9
Heavy Trucks:	65.3	63.6	59.0	56.9	64.9	65.2
Vehicle Noise:	69.6	67.8	63.2	61.1	69.1	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	284	897	2,836
CNEL:	96	303	959	3,034

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd. - Montecito Ranch

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	3,132 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	313 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.59	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-20.35	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-26.37	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	54.7	50.1	48.0	56.0	56.3
Medium Trucks:	53.9	52.1	47.6	45.5	53.4	53.7
Heavy Trucks:	53.1	51.4	46.8	44.7	52.7	53.0
Vehicle Noise:	59.5	57.7	53.2	51.1	59.1	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	28	89	280
CNEL:	9	30	95	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,472 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	247 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006			
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.62	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-21.37	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-27.40	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	53.6	49.1	47.0	55.0	55.3
Medium Trucks:	52.9	51.1	46.5	44.4	52.4	52.7
Heavy Trucks:	52.1	50.3	45.8	43.7	51.7	52.0
Vehicle Noise:	58.5	56.7	52.1	50.1	58.0	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	22	70	221
CNEL:	7	24	75	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS						
Highway Data		Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt):	3,131 vehicles	Autos:					10	
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10	
Peak Hour Volume:	313 vehicles	Heavy Trucks (3+ Axles):					10	
Vehicle Speed:	40 mph	Vehicle Mix						
Near/Far Lane Distance:	12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily		
Barrier Height:		0.0 feet						
Barrier Type (0-Wall, 1-Berm):		0.0						
Centerline Dist. to Barrier:		100.0 feet						
Centerline Dist. to Observer:		110.0 feet						
Barrier Distance to Observer:		10.0 feet						
Observer Height (Above Pad):		5.0 feet						
Pad Elevation:		0.0 feet						
Road Elevation:		0.0 feet						
Road Grade:		0.0%						
Left View:		-90.0 degrees						
Right View:		90.0 degrees						
		Autos:						10
		Medium Trucks (2 Axles):						10
		Heavy Trucks (3+ Axles):						10
		Vehicle Mix						
		VehicleType	Day	Evening	Night	Daily		
		Autos:	80.0%	7.0%	13.0%	95.00%		
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%		
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%		
		Noise Source Elevations (in feet)						
		Autos:	0.000					
		Medium Trucks:	2.297					
		Heavy Trucks:	8.006		Grade Adjustment: 0.0			
		Lane Equivalent Distance (in feet)						
		Autos:	109.950					
		Medium Trucks:	109.869					
		Heavy Trucks:	109.877					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.59	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-20.35	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-26.37	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	54.7	50.1	48.0	56.0	56.3
Medium Trucks:	53.9	52.1	47.6	45.5	53.4	53.7
Heavy Trucks:	53.1	51.4	46.8	44.7	52.7	53.0
Vehicle Noise:	59.5	57.7	53.2	51.1	59.1	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	28	88	280
CNEL:	9	30	95	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,060 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	206 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006			
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.41	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-22.17	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-28.19	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	52.8	48.3	46.2	54.2	54.5
Medium Trucks:	52.1	50.3	45.7	43.7	51.6	51.9
Heavy Trucks:	51.3	49.6	45.0	42.9	50.9	51.2
Vehicle Noise:	57.7	55.9	51.4	49.3	57.2	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	18	58	184
CNEL:	6	20	62	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Ash St.
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,795 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	280 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet					
Barrier Distance to Observer:	10.0 feet	Noise Source Elevations (in feet)				
Observer Height (Above Pad):	5.0 feet	Autos:	0.000			
Pad Elevation:	0.0 feet	Medium Trucks:	2.297			
Road Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Grade:	0.0%					
Left View:	-90.0 degrees	Lane Equivalent Distance (in feet)				
Right View:	90.0 degrees	Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.08	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-20.84	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-26.86	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	54.2	49.6	47.5	55.5	55.8
Medium Trucks:	53.4	51.6	47.1	45.0	52.9	53.2
Heavy Trucks:	52.6	50.9	46.3	44.2	52.2	52.5
Vehicle Noise:	59.0	57.2	52.7	50.6	58.6	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	25	79	250
CNEL:	8	27	84	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Ash St.
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	676 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	68 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006			
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-13.25	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-27.01	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-33.03	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	48.0	43.5	41.4	49.3	49.6
Medium Trucks:	47.2	45.5	40.9	38.8	46.8	47.1
Heavy Trucks:	46.5	44.7	40.2	38.1	46.0	46.3
Vehicle Noise:	52.8	51.1	46.5	44.4	52.4	52.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	2	6	19	60
CNEL:	2	6	20	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Montecito Rd.
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	3,559 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	356 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph						
Near/Far Lane Distance:	12 feet						
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height:		Autos:		80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):		Medium Trucks:		80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:		Heavy Trucks:		80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:		Noise Source Elevations (in feet)					
Barrier Distance to Observer:		Autos:		0.000			
Observer Height (Above Pad):		Medium Trucks:		2.297			
Pad Elevation:		Heavy Trucks:		8.006		Grade Adjustment: 0.0	
Road Elevation:		Lane Equivalent Distance (in feet)					
Road Grade:		Autos:		109.950			
Left View:		Medium Trucks:		109.869			
Right View:		Heavy Trucks:		109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.04	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-19.79	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-25.81	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	55.2	50.7	48.6	56.5	56.8
Medium Trucks:	54.4	52.7	48.1	46.0	54.0	54.3
Heavy Trucks:	53.7	51.9	47.4	45.3	53.3	53.5
Vehicle Noise:	60.0	58.3	53.7	51.6	59.6	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	32	101	318
CNEL:	11	34	108	340

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project
 Road Name: Montecito Rd.
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	6,059 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	606 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	95.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.72	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-17.48	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-23.50	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.5	53.0	50.9	58.9	59.2
Medium Trucks:	56.7	55.0	50.4	48.3	56.3	56.6
Heavy Trucks:	56.0	54.2	49.7	47.6	55.6	55.9
Vehicle Noise:	62.4	60.6	56.0	54.0	61.9	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	54	171	541
CNEL:	18	58	183	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: SR-78
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 14,485 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 1,448 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.01	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-13.70	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-16.71	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.3	56.7	54.6	62.6	62.9
Medium Trucks:	60.5	58.8	54.2	52.1	60.1	60.4
Heavy Trucks:	62.8	61.0	56.5	54.4	62.4	62.7
Vehicle Noise:	67.0	65.3	60.7	58.6	66.6	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	159	502	1,587
CNEL:	54	170	537	1,698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: SR-78
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 19,100 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 1,910 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
		Autos:	80.0%	7.0%	13.0%	94.00%	
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
		Noise Source Elevations (in feet)					
Barrier Height: 0.0 feet		Autos:	0.000	Grade Adjustment: 0.0			
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	2.297				
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	8.006				
Centerline Dist. to Observer: 110.0 feet		Lane Equivalent Distance (in feet)					
Barrier Distance to Observer: 10.0 feet							
Observer Height (Above Pad): 5.0 feet		Autos:	109.950				
Pad Elevation: 0.0 feet		Medium Trucks:	109.869				
Road Elevation: 0.0 feet		Heavy Trucks:	109.877				
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.22	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-12.50	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-15.51	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.5	57.9	55.8	63.8	64.1
Medium Trucks:	61.7	60.0	55.4	53.3	61.3	61.6
Heavy Trucks:	64.0	62.2	57.7	55.6	63.6	63.9
Vehicle Noise:	68.2	66.5	61.9	59.8	67.8	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	209	662	2,093
CNEL:	71	224	708	2,239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: SR-78
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	19,130 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	1,913 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.22	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-12.49	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-15.50	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.5	57.9	55.8	63.8	64.1
Medium Trucks:	61.7	60.0	55.4	53.3	61.3	61.6
Heavy Trucks:	64.0	62.2	57.7	55.6	63.6	63.9
Vehicle Noise:	68.2	66.5	61.9	59.8	67.8	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	210	663	2,096
CNEL:	71	224	709	2,242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: 10th St.
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 18,535 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 1,853 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType		Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:		80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:		80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:		80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:		0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:		2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:		8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:		109.950			
Left View: -90.0 degrees		Medium Trucks:		109.869			
Right View: 90.0 degrees		Heavy Trucks:		109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.13	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-12.63	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-18.65	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.4	57.8	55.7	63.7	64.0
Medium Trucks:	61.6	59.8	55.3	53.2	61.2	61.5
Heavy Trucks:	60.9	59.1	54.5	52.5	60.4	60.7
Vehicle Noise:	67.2	65.5	60.9	58.8	66.8	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	166	524	1,656
CNEL:	56	177	560	1,772

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-78)
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,680 vehicles		Autos: 10				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,068 vehicles		Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 55 mph						
Near/Far Lane Distance: 12 feet						
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer: 110.0 feet						
Barrier Distance to Observer: 10.0 feet						
Observer Height (Above Pad): 5.0 feet						
Pad Elevation: 0.0 feet						
Road Elevation: 0.0 feet						
Road Grade: 0.0%						
Left View: -90.0 degrees						
Right View: 90.0 degrees						
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.89	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-11.82	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-14.83	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.4	63.9	61.8	69.7	70.0
Medium Trucks:	67.1	65.3	60.8	58.7	66.7	67.0
Heavy Trucks:	68.1	66.3	61.8	59.7	67.6	67.9
Vehicle Noise:	73.4	71.7	67.1	65.0	73.0	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	219	691	2,185	6,911
CNEL:	234	739	2,338	7,393

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 37,292 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 3,729 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 55 mph		Vehicle Mix					
Near/Far Lane Distance: 12 feet							
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)					
Barrier Distance to Observer: 10.0 feet		Autos:	0.000				
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297				
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)					
Road Grade: 0.0%		Autos:	109.950				
Left View: -90.0 degrees		Medium Trucks:	109.869				
Right View: 90.0 degrees		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.74	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-10.97	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-13.98	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.3	64.7	62.6	70.6	70.9
Medium Trucks:	67.9	66.2	61.6	59.5	67.5	67.8
Heavy Trucks:	68.9	67.2	62.6	60.5	68.5	68.8
Vehicle Noise:	74.3	72.5	67.9	65.9	73.8	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	266	840	2,656	8,400
CNEL:	284	899	2,842	8,986

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	34,562 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	3,456 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	55 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	94.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	2.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.41	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	82.40	-11.30	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	86.40	-14.31	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)							
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	70.7	68.9	64.4	62.3	70.3	70.6	
Medium Trucks:	67.6	65.9	61.3	59.2	67.2	67.5	
Heavy Trucks:	68.6	66.8	62.3	60.2	68.2	68.5	
Vehicle Noise:	73.9	72.2	67.6	65.5	73.5	73.8	

Centerline Distance to Noise Contour (in feet)				
	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	246	779	2,462	7,785
CNEL:	263	833	2,634	8,328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: Hunter St.- Proposed SA-330

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 35,514 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,551 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph								
Near/Far Lane Distance: 12 feet								
				Vehicle Mix				
				VehicleType	Day	Evening	Night	Daily
Site Data				Autos: 80.0% 7.0% 13.0% 94.00%				
Barrier Height: 0.0 feet				Medium Trucks: 80.0% 7.0% 13.0% 4.00%				
Barrier Type (0-Wall, 1-Berm): 0.0				Heavy Trucks: 80.0% 7.0% 13.0% 2.00%				
Centerline Dist. to Barrier: 100.0 feet				Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 110.0 feet				Autos: 0.000				
Barrier Distance to Observer: 10.0 feet				Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet								
Road Elevation: 0.0 feet				Lane Equivalent Distance (in feet)				
Road Grade: 0.0%				Autos: 109.950				
Left View: -90.0 degrees				Medium Trucks: 109.869				
Right View: 90.0 degrees				Heavy Trucks: 109.877				
FHWA Noise Model Calculations								
VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten	
Autos:	66.51	3.91	-3.49	0.00	-1.04	0.000	0.000	
Medium Trucks:	77.72	-9.80	-3.49	0.00	-1.15	0.000	0.000	
Heavy Trucks:	82.99	-12.81	-3.49	0.00	-1.43	0.000	0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)								
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	66.9	65.2	60.6	58.5	66.5	66.8		
Medium Trucks:	64.4	62.7	58.1	56.0	64.0	64.3		
Heavy Trucks:	66.7	64.9	60.4	58.3	66.3	66.5		
Vehicle Noise:	70.9	69.2	64.6	62.5	70.5	70.8		
Centerline Distance to Noise Contour (in feet)								
		70 dBA	65 dBA	60 dBA	55 dBA			
	Ldn:	123	389	1,231	3,892			
	CNEL:	132	416	1,316	4,163			

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: Proposed SA-330 - Highland Vall

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA				NOISE MODEL INPUTS				
Highway Data				Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,338 vehicles				Autos: 10				
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 10				
Peak Hour Volume: 3,634 vehicles				Heavy Trucks (3+ Axles): 10				
Vehicle Speed: 40 mph				Vehicle Mix				
Near/Far Lane Distance: 12 feet				VehicleType	Day	Evening	Night	Daily
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 100.0 feet Centerline Dist. to Observer: 110.0 feet Barrier Distance to Observer: 10.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees				Autos: 80.0% 7.0% 13.0% 94.00%				
				Medium Trucks: 80.0% 7.0% 13.0% 4.00%				
				Heavy Trucks: 80.0% 7.0% 13.0% 2.00%				
				Noise Source Elevations (in feet)				
				Autos: 0.000				
				Medium Trucks: 2.297				
				Heavy Trucks: 8.006 Grade Adjustment: 0.0				
				Lane Equivalent Distance (in feet)				
				Autos: 109.950				
				Medium Trucks: 109.869				
				Heavy Trucks: 109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	4.01	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-9.70	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-12.71	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.3	60.7	58.6	66.6	66.9
Medium Trucks:	64.5	62.8	58.2	56.1	64.1	64.4
Heavy Trucks:	66.8	65.0	60.5	58.4	66.4	66.6
Vehicle Noise:	71.0	69.3	64.7	62.6	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	126	398	1,259	3,982
CNEL:	135	426	1,347	4,260

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 34,456 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 3,446 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	94.00%	
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	2.00%	
Centerline Dist. to Observer: 110.0 feet							
Barrier Distance to Observer: 10.0 feet							
Observer Height (Above Pad): 5.0 feet							
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet							
Road Grade: 0.0%							
Left View: -90.0 degrees							
Right View: 90.0 degrees							
		Noise Source Elevations (in feet)					
		Autos:	0.000				
		Medium Trucks:	2.297				
		Heavy Trucks:	8.006	Grade Adjustment:	0.0		
		Lane Equivalent Distance (in feet)					
		Autos:	109.950				
		Medium Trucks:	109.869				
		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.78	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-9.93	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-12.94	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.0	60.5	58.4	66.4	66.7
Medium Trucks:	64.3	62.5	58.0	55.9	63.9	64.1
Heavy Trucks:	66.6	64.8	60.2	58.2	66.1	66.4
Vehicle Noise:	70.8	69.0	64.5	62.4	70.4	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	119	378	1,194	3,776
CNEL:	128	404	1,277	4,039

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Main St. (SR-67)
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt): 35,686 vehicles		Autos: 10					
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 10					
Peak Hour Volume: 3,569 vehicles		Heavy Trucks (3+ Axles): 10					
Vehicle Speed: 40 mph							
Near/Far Lane Distance: 12 feet							
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet		Autos: 80.0% 7.0% 13.0% 94.00%					
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks: 80.0% 7.0% 13.0% 4.00%					
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks: 80.0% 7.0% 13.0% 2.00%					
Centerline Dist. to Observer: 110.0 feet							
Barrier Distance to Observer: 10.0 feet		Noise Source Elevations (in feet)					
Observer Height (Above Pad): 5.0 feet		Autos: 0.000					
Pad Elevation: 0.0 feet		Medium Trucks: 2.297					
Road Elevation: 0.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0					
Road Grade: 0.0%							
Left View: -90.0 degrees		Lane Equivalent Distance (in feet)					
Right View: 90.0 degrees		Autos: 109.950					
		Medium Trucks: 109.869					
		Heavy Trucks: 109.877					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	3.93	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-9.78	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-12.79	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.2	60.6	58.5	66.5	66.8
Medium Trucks:	64.4	62.7	58.1	56.0	64.0	64.3
Heavy Trucks:	66.7	65.0	60.4	58.3	66.3	66.6
Vehicle Noise:	70.9	69.2	64.6	62.5	70.5	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	391	1,237	3,910
CNEL:	132	418	1,323	4,183

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd. - Montecito Ranch

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	3,131 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	313 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000	Grade Adjustment: 0.0		
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006			
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.59	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-20.35	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-26.37	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	54.7	50.1	48.0	56.0	56.3
Medium Trucks:	53.9	52.1	47.6	45.5	53.4	53.7
Heavy Trucks:	53.1	51.4	46.8	44.7	52.7	53.0
Vehicle Noise:	59.5	57.7	53.2	51.1	59.1	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	28	88	280
CNEL:	9	30	95	299

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Proposed SA-330 (Montecito Way)
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,472 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	247 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.62	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-21.37	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-27.40	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	53.6	49.1	47.0	55.0	55.3
Medium Trucks:	52.9	51.1	46.5	44.4	52.4	52.7
Heavy Trucks:	52.1	50.3	45.8	43.7	51.7	52.0
Vehicle Noise:	58.5	56.7	52.1	50.1	58.0	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	22	70	221
CNEL:	7	24	75	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,531 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	253 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet					
Site Data		VehicleType	Day	Evening	Night	Daily
Barrier Height: 0.0 feet		Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier: 100.0 feet		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer: 110.0 feet		Noise Source Elevations (in feet)				
Barrier Distance to Observer: 10.0 feet		Autos:	0.000			
Observer Height (Above Pad): 5.0 feet		Medium Trucks:	2.297			
Pad Elevation: 0.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Road Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Grade: 0.0%		Autos:	109.950			
Left View: -90.0 degrees		Medium Trucks:	109.869			
Right View: 90.0 degrees		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.52	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-21.27	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-27.29	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.5	53.7	49.2	47.1	55.1	55.4
Medium Trucks:	53.0	51.2	46.6	44.6	52.5	52.8
Heavy Trucks:	52.2	50.5	45.9	43.8	51.8	52.1
Vehicle Noise:	58.6	56.8	52.2	50.2	58.1	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	23	72	226
CNEL:	8	24	77	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Proposed SA-330 (Montecito Ran
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	2,060 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	206 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.41	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-22.17	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-28.19	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	52.8	48.3	46.2	54.2	54.5
Medium Trucks:	52.1	50.3	45.7	43.7	51.6	51.9
Heavy Trucks:	51.3	49.6	45.0	42.9	50.9	51.2
Vehicle Noise:	57.7	55.9	51.4	49.3	57.2	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	18	58	184
CNEL:	6	20	62	197

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Ash St.
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	2,795 vehicles	Autos: 10					
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10					
Peak Hour Volume:	280 vehicles	Heavy Trucks (3+ Axles): 10					
Vehicle Speed:	40 mph	Vehicle Mix					
Near/Far Lane Distance:	12 feet						
Site Data		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%	
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)					
Barrier Distance to Observer:	10.0 feet	Autos:	0.000	Grade Adjustment: 0.0			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297				
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006				
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)					
Road Grade:	0.0%	Autos:	109.950				
Left View:	-90.0 degrees	Medium Trucks:	109.869				
Right View:	90.0 degrees	Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.08	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-20.84	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-26.86	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	54.2	49.6	47.5	55.5	55.8
Medium Trucks:	53.4	51.6	47.1	45.0	52.9	53.2
Heavy Trucks:	52.6	50.9	46.3	44.2	52.2	52.5
Vehicle Noise:	59.0	57.2	52.7	50.6	58.6	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	25	79	250
CNEL:	8	27	84	267

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Ash St.
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	676 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	68 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
Centerline Dist. to Observer:	110.0 feet	Noise Source Elevations (in feet)				
Barrier Distance to Observer:	10.0 feet	Autos:	0.000			
Observer Height (Above Pad):	5.0 feet	Medium Trucks:	2.297			
Pad Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:	109.950			
Left View:	-90.0 degrees	Medium Trucks:	109.869			
Right View:	90.0 degrees	Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-13.25	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-27.01	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-33.03	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.8	48.0	43.5	41.4	49.3	49.6
Medium Trucks:	47.2	45.5	40.9	38.8	46.8	47.1
Heavy Trucks:	46.5	44.7	40.2	38.1	46.0	46.3
Vehicle Noise:	52.8	51.1	46.5	44.4	52.4	52.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	2	6	19	60
CNEL:	2	6	20	65

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Montecito Rd.
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	4,518 vehicles	Autos: 10				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 10				
Peak Hour Volume:	452 vehicles	Heavy Trucks (3+ Axles): 10				
Vehicle Speed:	40 mph					
Near/Far Lane Distance:	12 feet					
Site Data		Vehicle Mix				
		VehicleType	Day	Evening	Night	Daily
		Autos:	80.0%	7.0%	13.0%	95.00%
		Medium Trucks:	80.0%	7.0%	13.0%	4.00%
		Heavy Trucks:	80.0%	7.0%	13.0%	1.00%
		Noise Source Elevations (in feet)				
		Autos:	0.000			
		Medium Trucks:	2.297			
		Heavy Trucks:	8.006	Grade Adjustment:	0.0	
		Lane Equivalent Distance (in feet)				
		Autos:	109.950			
		Medium Trucks:	109.869			
		Heavy Trucks:	109.877			

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.00	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-18.76	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-24.78	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.0	56.3	51.7	49.6	57.6	57.9
Medium Trucks:	55.5	53.7	49.2	47.1	55.0	55.3
Heavy Trucks:	54.7	53.0	48.4	46.3	54.3	54.6
Vehicle Noise:	61.1	59.3	54.8	52.7	60.6	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	40	128	404
CNEL:	14	43	137	432

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative
 Road Name: Montecito Rd.
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch
 Job Number: 4568
 Analyst: A. Stalker

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS					
Highway Data		Site Conditions (Hard = 10, Soft = 15)					
Average Daily Traffic (Adt):	7,018 vehicles	Autos:					10
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):					10
Peak Hour Volume:	702 vehicles	Heavy Trucks (3+ Axles):					10
Vehicle Speed:	40 mph						
Near/Far Lane Distance:	12 feet						
Site Data		Vehicle Mix					
		VehicleType	Day	Evening	Night	Daily	
Barrier Height:	0.0 feet	Autos:	80.0%	7.0%	13.0%	95.00%	
Barrier Type (0-Wall, 1-Berm):	0.0	Medium Trucks:	80.0%	7.0%	13.0%	4.00%	
Centerline Dist. to Barrier:	100.0 feet	Heavy Trucks:	80.0%	7.0%	13.0%	1.00%	
Centerline Dist. to Observer:	110.0 feet						
Barrier Distance to Observer:	10.0 feet	Noise Source Elevations (in feet)					
Observer Height (Above Pad):	5.0 feet	Autos:	0.000				
Pad Elevation:	0.0 feet	Medium Trucks:	2.297				
Road Elevation:	0.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0			
Road Grade:	0.0%						
Left View:	-90.0 degrees	Lane Equivalent Distance (in feet)					
Right View:	90.0 degrees	Autos:	109.950				
		Medium Trucks:	109.869				
		Heavy Trucks:	109.877				

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.09	-3.49	0.00	-1.04	0.000	0.000
Medium Trucks:	77.72	-16.84	-3.49	0.00	-1.15	0.000	0.000
Heavy Trucks:	82.99	-22.86	-3.49	0.00	-1.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.9	58.2	53.6	51.5	59.5	59.8
Medium Trucks:	57.4	55.6	51.1	49.0	56.9	57.2
Heavy Trucks:	56.6	54.9	50.3	48.2	56.2	56.5
Vehicle Noise:	63.0	61.2	56.7	54.6	62.6	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	63	198	627
CNEL:	21	67	212	671

APPENDIX D

BUILDING FACADE ANALYSIS PREDICTION MODEL INPUTS
AND CALCULATIONS FOR EXISTING PLUS PROJECT SCENARIO
(ROADWAY DESIGN OPTION 1)

OFFOPT1

Montecito Ranch First Floor Off Site Existing Plus Project Option 1

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N, 4309., 4740, 1436,

N, 4205., 4547, 1432,

N, 4188., 4350, 1430,

N, 4175., 3006, 1415,

N, 4157., 2237, 1412,

N, 4158., 1370, 1405,

N, 4142., 385, 1400,

L-Ash Street, 2

N, 11089., 6896, 1619,

N, 11931., 6894, 1575,

N, 12627., 6895, 1558,

N, 13085., 6894, 1556,

N, 13954., 6891, 1552,

N, 14437., 6891, 1551,

B-Road Edge 1, 1 , 1 , 0 , 0

4329., 4740, 1436, 1436,

4225., 4547, 1432, 1432,

4208., 4350, 1430, 1430,

4195., 3006, 1415, 1415,

4177., 2237, 1412, 1412,

4178., 1370, 1405, 1405,

4162., 385, 1400, 1400,

B-Road Edge 2, 2 , 1 , 0 , 0

4289., 4740, 1436, 1436,

4185., 4547, 1432, 1432,

4168., 4350, 1430, 1430,

4155., 3006, 1415, 1415,

4137., 2237, 1412, 1412,

4138., 1370, 1405, 1405,

4122., 385, 1400, 1400,

B-Road Edge 3, 3 , 1 , 0 , 0

11089., 6916, 1619, 1619,

11931., 6914, 1575, 1575,

12627., 6915, 1558, 1558,

13085., 6914, 1556, 1556,

13954., 6911, 1552, 1552,

14437., 6911, 1551, 1551,

B-Road Edge 4, 4 , 2 , 0 , 0

11089., 6876, 1619, 1619,

11931., 6874, 1575, 1575,

12627., 6875, 1558, 1558,

13085., 6874, 1556, 1556,

13954., 6871, 1552, 1552,

14437., 6871, 1551, 1551,

R, 1 , 67 , 500

4230, 4298, 1435.,

R, 2 , 67 , 500

4227, 4059, 1430.,

R, 3 , 67 , 500

4331, 2932, 1418.,

R, 4 , 67 , 500

4233, 2847, 1418.,

R, 5 , 67 , 500

4212, 2716, 1418.,

R, 6 , 67 , 500

4219, 2645, 1418.,

R, 7 , 67 , 500

OFFOPT1

4226,2558,1416.,
R, 8 , 67 ,500
4114,2138,1418.,
R, 9 , 67 ,500
4061,1427,1409.,
R, 10 , 67 ,500
4202,669,1409.,
R, 11 , 67 ,500
11304,7064,1627.,
R, 12 , 67 ,500
11489,6841,1593.,
R, 13 , 67 ,500
11647,6970,1585.,
R, 14 , 67 ,500
11716,6952,1583.,
R, 15 , 67 ,500
11852,7004,1566.,
R, 16 , 67 ,500
11952,6777,1582.,
R, 17 , 67 ,500
11994,6963,1562.,
R, 18 , 67 ,500
12498,6983,1550.,
R, 19 , 67 ,500
12859,6739,1565.,
R, 20 , 67 ,500
12965,7058,1567.,
C,C

TITLE:

Montecito Ranch First Floor Off Site Existing Plus Project Option 1

BARRIER DATA

BAR ELE	0	1	BARRIER HEIGHTS							BAR ID	LENGTH	TYPE
1	-	0.*								B1 P1	219.3	BERM
2	-	0.*								B1 P2	197.7	BERM
3	-	0.*								B1 P3	1344.1	BERM
4	-	0.*								B1 P4	769.2	BERM
5	-	0.*								B1 P5	867.0	BERM
6	-	0.*								B1 P6	985.1	BERM
7	-	0.*								B2 P1	219.3	BERM
8	-	0.*								B2 P2	197.7	BERM
9	-	0.*								B2 P3	1344.1	BERM
10	-	0.*								B2 P4	769.2	BERM
11	-	0.*								B2 P5	867.0	BERM
12	-	0.*								B2 P6	985.1	BERM
13	-	0.*								B3 P1	843.2	BERM
14	-	0.*								B3 P2	696.2	BERM
15	-	0.*								B3 P3	458.0	BERM
16	-	0.*								B3 P4	869.0	BERM
17	-	0.*								B3 P5	483.0	BERM
18	-	0.*								B4 P1	843.2	MASONRY
19	-	0.*								B4 P2	696.2	MASONRY
20	-	0.*								B4 P3	458.0	MASONRY
21	-	0.*								B4 P4	869.0	MASONRY
22	-	0.*								B4 P5	483.0	MASONRY
	0	1	2	3	4	5	6	7				

1	REC	REC	ID	DNL	PEOPLE	LEQ(CAL)
1	R-1			67.	500.	62.8
2	R-2			67.	500.	58.8
3	R-3			67.	500.	52.5
4	R-4			67.	500.	57.7
5	R-5			67.	500.	60.1
6	R-6			67.	500.	57.8
7	R-7			67.	500.	57.2
8	R-8			67.	500.	63.0
9	R-9			67.	500.	54.9
10	R-10			67.	500.	59.7
11	R-11			67.	500.	50.7
12	R-12			67.	500.	57.2
13	R-13			67.	500.	52.2
14	R-14			67.	500.	53.5
15	R-15			67.	500.	52.8
16	R-16			67.	500.	56.2
17	R-17			67.	500.	52.0
18	R-18			67.	500.	53.5
19	R-19			67.	500.	54.2
20	R-20			67.	500.	51.4

MOFFOPT1

Montecito Ranch First Floor Off Site Existing Plus Project Option 1 MIT

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N,4309.,4740,1436,

N,4205.,4547,1432,

N,4188.,4350,1430,

N,4175.,3006,1415,

N,4157.,2237,1412,

N,4158.,1370,1405,

N,4142.,385,1400,

L-Ash Street, 2

N,11089.,6896,1619,

N,11931.,6894,1575,

N,12627.,6895,1558,

N,13085.,6894,1556,

N,13954.,6891,1552,

N,14437.,6891,1551,

B-Road Edge 1, 1 , 1 , 0 ,0

4329.,4740,1436,1436,

4225.,4547,1432,1432,

4208.,4350,1430,1430,

4195.,3006,1415,1415,

4177.,2237,1412,1412,

4178.,1370,1405,1405,

4162.,385,1400,1400,

B-Road Edge 2, 2 , 1 , 0 ,0

4289.,4740,1436,1436,

4185.,4547,1432,1432,

4168.,4350,1430,1430,

4155.,3006,1415,1415,

4137.,2237,1412,1412,

4138.,1370,1405,1405,

4122.,385,1400,1400,

B-Road Edge 3, 3 , 1 , 0 ,0

11089.,6916,1619,1619,

11931.,6914,1575,1575,

12627.,6915,1558,1558,

13085.,6914,1556,1556,

13954.,6911,1552,1552,

14437.,6911,1551,1551,

B-Road Edge 4, 4 , 2 , 0 ,0

11089.,6876,1619,1619,

11931.,6874,1575,1575,

12627.,6875,1558,1558,

13085.,6874,1556,1556,

13954.,6871,1552,1552,

14437.,6871,1551,1551,

B-Barrier 1, 5 , 2 , 0 ,0

4220.,4333,1430,1434,

4220.,4256,1430,1434,

B-Barrier 8, 6 , 2 , 0 ,0

4123.,2189,1413,1417,

4122.,2090,1413,1417,

R, 1 , 67 ,500

4230,4298,1435.,

R, 2 , 67 ,500

4227,4059,1430.,

R, 3 , 67 ,500

4331,2932,1418.,

R, 4 , 67 ,500

MOFFOPT1

4233,2847,1418.,
R, 5 , 67 ,500
4212,2716,1418.,
R, 6 , 67 ,500
4219,2645,1418.,
R, 7 , 67 ,500
4226,2558,1416.,
R, 8 , 67 ,500
4114,2138,1418.,
R, 9 , 67 ,500
4061,1427,1409.,
R, 10 , 67 ,500
4202,669,1409.,
R, 11 , 67 ,500
11304,7064,1627.,
R, 12 , 67 ,500
11489,6841,1593.,
R, 13 , 67 ,500
11647,6970,1585.,
R, 14 , 67 ,500
11716,6952,1583.,
R, 15 , 67 ,500
11852,7004,1566.,
R, 16 , 67 ,500
11952,6777,1582.,
R, 17 , 67 ,500
11994,6963,1562.,
R, 18 , 67 ,500
12498,6983,1550.,
R, 19 , 67 ,500
12859,6739,1565.,
R, 20 , 67 ,500
12965,7058,1567.,
C,C

SOUND32

SOUND32 - RELEASE 07/30/91

TITLE:

Montecito Ranch First Floor Off Site Existing Plus Project Option 1 MIT

BARRIER DATA

BAR ELE	0	1	BARRIER HEIGHTS					6	7	BAR ID	LENGTH	TYPE
1	-	0.*								B1 P1	219.3	BERM
2	-	0.*								B1 P2	197.7	BERM
3	-	0.*								B1 P3	1344.1	BERM
4	-	0.*								B1 P4	769.2	BERM
5	-	0.*								B1 P5	867.0	BERM
6	-	0.*								B1 P6	985.1	BERM
7	-	0.*								B2 P1	219.3	BERM
8	-	0.*								B2 P2	197.7	BERM
9	-	0.*								B2 P3	1344.1	BERM
10	-	0.*								B2 P4	769.2	BERM
11	-	0.*								B2 P5	867.0	BERM
12	-	0.*								B2 P6	985.1	BERM
13	-	0.*								B3 P1	843.2	BERM
14	-	0.*								B3 P2	696.2	BERM
15	-	0.*								B3 P3	458.0	BERM
16	-	0.*								B3 P4	869.0	BERM
17	-	0.*								B3 P5	483.0	BERM
18	-	0.*								B4 P1	843.2	MASONRY
19	-	0.*								B4 P2	696.2	MASONRY
20	-	0.*								B4 P3	458.0	MASONRY
21	-	0.*								B4 P4	869.0	MASONRY
22	-	0.*								B4 P5	483.0	MASONRY
23	-	4.*								B5 P1	77.0	MASONRY
24	-	4.*								B6 P1	99.0	MASONRY

	0	1	2	3	4	5	6	7
1								
REC	REC	ID	DNL	PEOPLE	LEQ(CAL)			
1	R-1		67.	500.	59.0			
2	R-2		67.	500.	58.8			
3	R-3		67.	500.	52.5			
4	R-4		67.	500.	57.7			
5	R-5		67.	500.	60.1			
6	R-6		67.	500.	57.8			
7	R-7		67.	500.	57.2			
8	R-8		67.	500.	58.7			
9	R-9		67.	500.	54.9			
10	R-10		67.	500.	59.7			
11	R-11		67.	500.	50.7			
12	R-12		67.	500.	57.2			
13	R-13		67.	500.	52.2			
14	R-14		67.	500.	53.5			
15	R-15		67.	500.	52.8			
16	R-16		67.	500.	56.2			
17	R-17		67.	500.	52.0			
18	R-18		67.	500.	53.5			

SOUND32

19	R-19	67.	500.	54.2
20	R-20	67.	500.	51.4

OFF20PT1

Montecito Ranch Second Floor Off Site Existing Plus Project Option 1

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N,4309.,4740,1436,

N,4205.,4547,1432,

N,4188.,4350,1430,

N,4175.,3006,1415,

N,4157.,2237,1412,

N,4158.,1370,1405,

N,4142.,385,1400,

L-Ash Street, 2

N,11089.,6896,1619,

N,11931.,6894,1575,

N,12627.,6895,1558,

N,13085.,6894,1556,

N,13954.,6891,1552,

N,14437.,6891,1551,

B-Road Edge 1, 1 , 1 , 0 ,0

4329.,4740,1436,1436,

4225.,4547,1432,1432,

4208.,4350,1430,1430,

4195.,3006,1415,1415,

4177.,2237,1412,1412,

4178.,1370,1405,1405,

4162.,385,1400,1400,

B-Road Edge 2, 2 , 1 , 0 ,0

4289.,4740,1436,1436,

4185.,4547,1432,1432,

4168.,4350,1430,1430,

4155.,3006,1415,1415,

4137.,2237,1412,1412,

4138.,1370,1405,1405,

4122.,385,1400,1400,

B-Road Edge 3, 3 , 1 , 0 ,0

11089.,6916,1619,1619,

11931.,6914,1575,1575,

12627.,6915,1558,1558,

13085.,6914,1556,1556,

13954.,6911,1552,1552,

14437.,6911,1551,1551,

B-Road Edge 4, 4 , 2 , 0 ,0

11089.,6876,1619,1619,

11931.,6874,1575,1575,

12627.,6875,1558,1558,

13085.,6874,1556,1556,

13954.,6871,1552,1552,

14437.,6871,1551,1551,

R, 1 , 67 ,500

12859,6739,1575.,

R, 2 , 67 ,500

12965,7058,1577.,

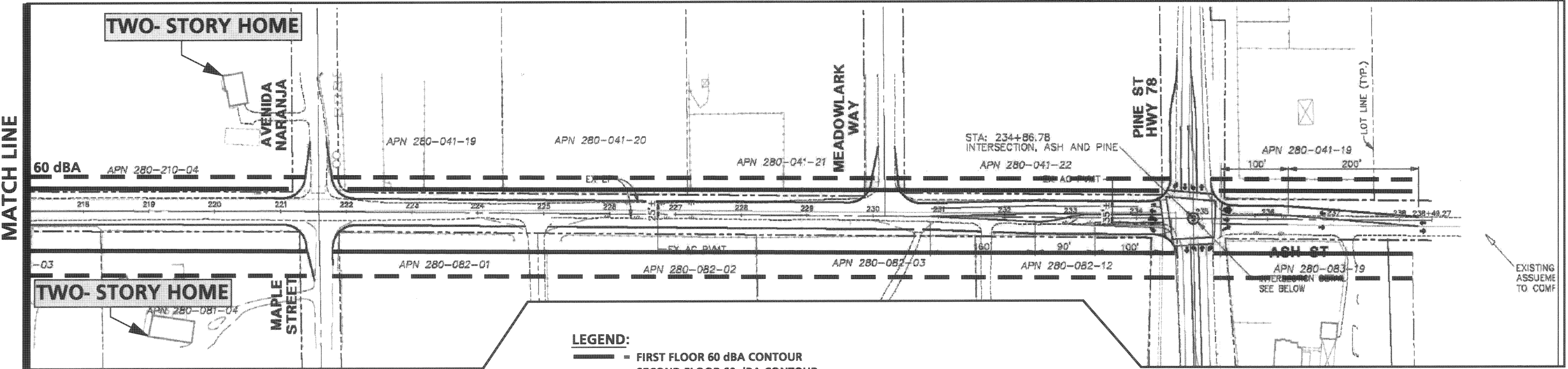
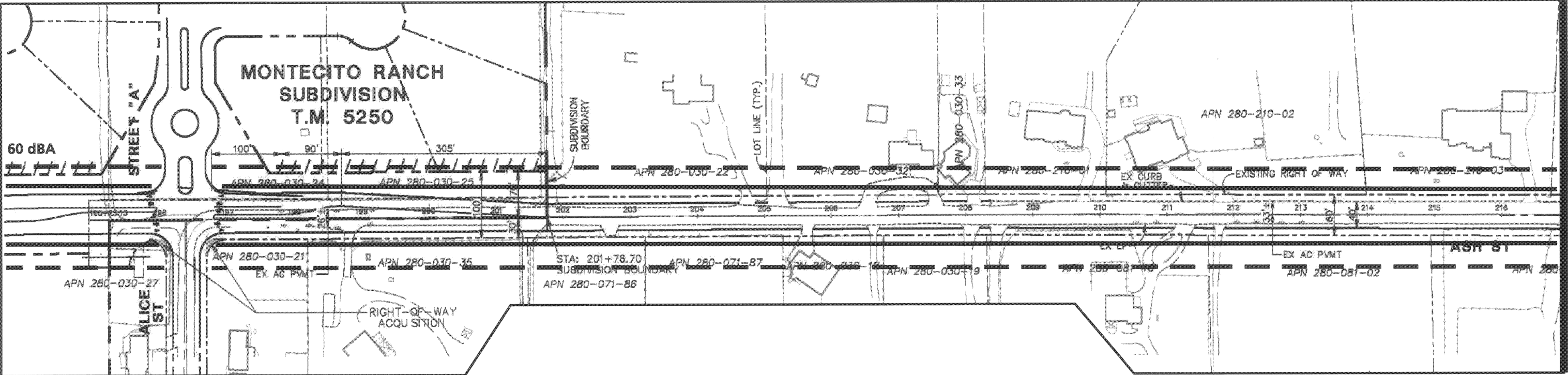
C,C

TITLE:

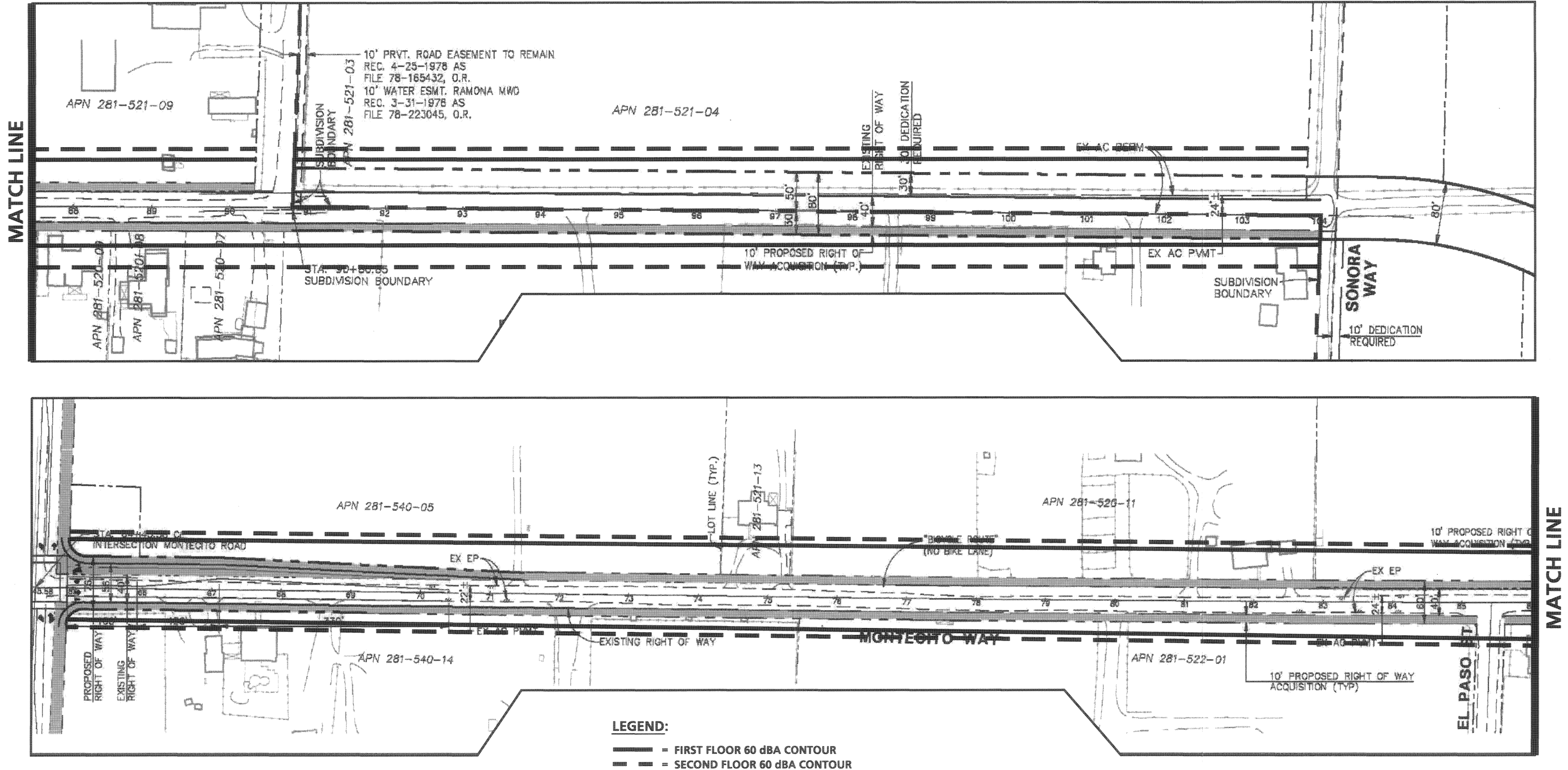
Montecito Ranch Second Floor Off Site Existing Plus Project Option 1

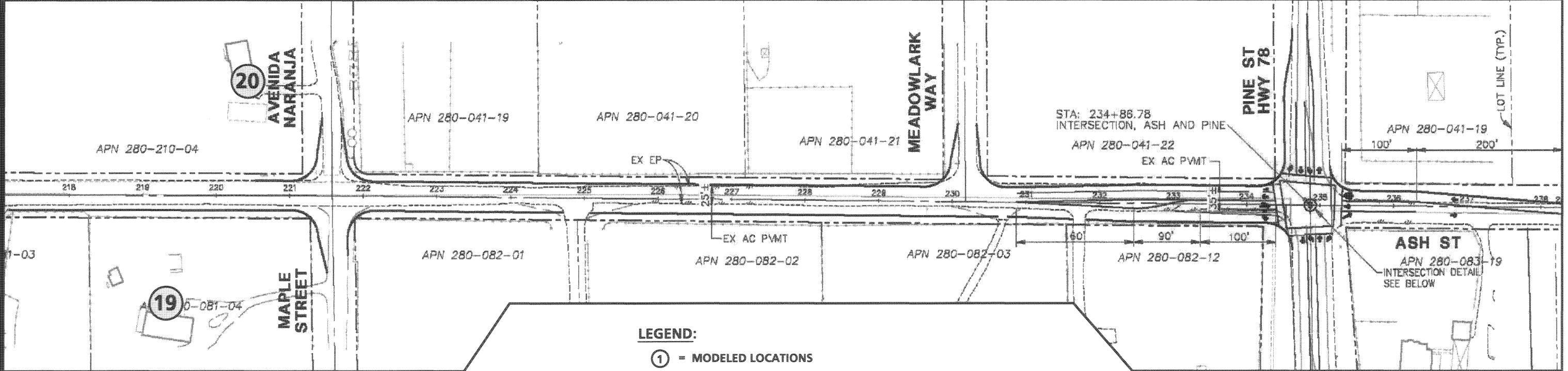
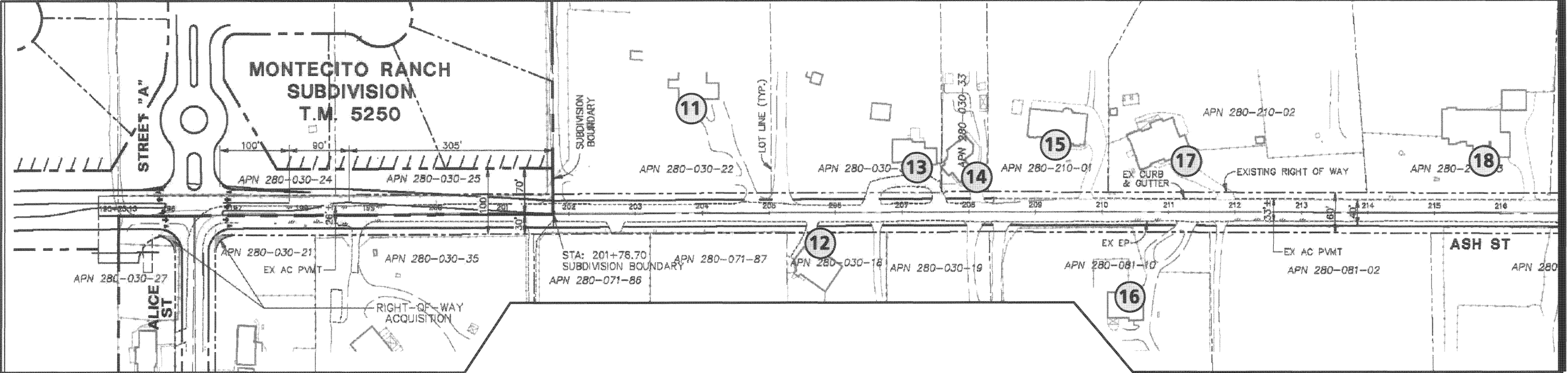
BARRIER DATA

BAR ELE	0	1	BARRIER HEIGHTS							BAR ID	LENGTH	TYPE
1	-	0.*								B1 P1	219.3	BERM
2	-	0.*								B1 P2	197.7	BERM
3	-	0.*								B1 P3	1344.1	BERM
4	-	0.*								B1 P4	769.2	BERM
5	-	0.*								B1 P5	867.0	BERM
6	-	0.*								B1 P6	985.1	BERM
7	-	0.*								B2 P1	219.3	BERM
8	-	0.*								B2 P2	197.7	BERM
9	-	0.*								B2 P3	1344.1	BERM
10	-	0.*								B2 P4	769.2	BERM
11	-	0.*								B2 P5	867.0	BERM
12	-	0.*								B2 P6	985.1	BERM
13	-	0.*								B3 P1	843.2	BERM
14	-	0.*								B3 P2	696.2	BERM
15	-	0.*								B3 P3	458.0	BERM
16	-	0.*								B3 P4	869.0	BERM
17	-	0.*								B3 P5	483.0	BERM
18	-	0.*								B4 P1	843.2	MASONRY
19	-	0.*								B4 P2	696.2	MASONRY
20	-	0.*								B4 P3	458.0	MASONRY
21	-	0.*								B4 P4	869.0	MASONRY
22	-	0.*								B4 P5	483.0	MASONRY
	0	1	2	3	4	5	6	7				
1	REC	REC	ID	DNL	PEOPLE	LEQ(CAL)						
1	R-1			67.	500.	55.2						
2	R-2			67.	500.	53.2						



OFF - SITE EXISTING PLUS PROJECT NOISE CONTOURS MONTECITO WAY OPTION 1





LEGEND:
① = MODELED LOCATIONS





6.2 Traffic Noise Prediction Model Inputs (Roadway Option 1)

Tables 6-1 and 6-2 present the FHWA Traffic Noise Prediction Model roadway parameters for roadway design Option 1 used in this analysis. Hard site conditions were used to develop noise contours and analyze noise impacts to the project site. This will provide a worse-case analysis.

The average daily traffic volumes used for the off-site analysis in this study are presented in Table 6-2. The traffic volumes were obtained from the Traffic Impact Analysis prepared by Urban Systems Associates (2007).

Table 6-3 presents the hourly traffic flow distributions (vehicle mix) used for this analysis. The future traffic noise model utilizes previously accepted vehicle mixes of 94% Autos, 4% Medium Trucks and 2% Heavy Trucks for Highway 78 and State Route 67 and 95% Autos, 4% Medium Trucks and 1% Heavy Trucks for all other roadways. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model.

6.3 Traffic Noise Contours (Roadway Option 1)

To assess the off-site noise level impacts associated with development of the proposed Montecito Ranch Residential Development under roadway design Option 1, noise contours were developed for the following traffic scenarios:

Existing: This scenario refers to the existing present-day noise conditions, without construction of the proposed project.

Existing with project: This scenario refers to the existing present-day noise conditions, with construction of the proposed project. This corresponds to the completion of the project's buildout.

TABLE 6-1

ROADWAY PARAMETERS

ROADWAY	SEGMENT	ROADWAY CLASSIFICATION ¹	VEHICLE SPEED (MPH) ²	SITE CONDITIONS
SR-78	Ash St. - Haverford Rd.	Rural Light Collector	40	Hard
SR-78	Ash St. - Olive St.	Rural Light Collector	40	Hard
SR-78	Olive St. - Main St. (SR-67)	Rural Light Collector	40	Hard
10th St.	Main St. (SR-67) - H St.	Rural Light Collector	40	Hard
Main St. (SR-78)	7th St. - 3rd St.	Major	55	Hard
Main St. (SR-67)	10th St. - Montecito Rd.	Major	55	Hard
Main St. (SR-67)	Montecito Rd. - Hunter St.	Major	55	Hard
Main St. (SR-67)	Hunter St. - Proposed SA-330	Rural Light Collector	40	Hard
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	Rural Light Collector	40	Hard
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	Rural Light Collector	40	Hard
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	Rural Light Collector	40	Hard
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	Rural Light Collector	40	Hard
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	Rural Light Collector	40	Hard
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	Rural Light Collector	40	Hard
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	Rural Light Collector	40	Hard
Ash St.	East Project Access - Pine St. (SR-78)	Rural Light Collector	40	Hard
Ash St.	Pine St. (SR-78) - Elm St.	Rural Light Collector	40	Hard
Montecito Rd.	Montecito Way - Davis St.	Rural Light Collector	40	Hard
Montecito Rd.	Davis St. - Main St. (SR-67)	Rural Light Collector	40	Hard

1 According to the Traffic Impact Analysis prepared by Urban Systems Associates (2007).

2 According to Attachment C of the County of San Diego Guidelines for Determining Significance

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TABLE 6-2

AVERAGE DAILY TRAFFIC¹

ROADWAY	SEGMENT	AVERAGE DAILY TRAFFIC		
		EXISTING	EXISTING PLUS PROJECT	EXISTING PLUS PROJECT PLUS CUMULATIVE
SR-78	Ash St. - Haverford Rd.	9,700	9,994	14,485
SR-78	Ash St. - Olive St.	10,200	12,024	19,100
SR-78	Olive St. - Main St. (SR-67)	10,700	12,054	19,130
10th St.	Main St. (SR-67) - H St.	7,000	7,479	18,535
Main St. (SR-78)	7th St. - 3rd St.	23,300	23,594	30,680
Main St. (SR-67)	10th St. - Montecito Rd.	29,500	30,206	37,292
Main St. (SR-67)	Montecito Rd. - Hunter St.	27,300	27,947	34,562
Main St. (SR-67)	Hunter St. - Proposed SA-330	27,000	27,647	35,514
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	27,000	28,471	36,338
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	24,000	25,059	34,456
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	25,000	25,883	35,686
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	600	3,132	3,131
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	0	2,472	2,472
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	0	3,131	2,531
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	0	2,060	2,060
Ash St.	East Project Access - Pine St. (SR-78)	500	2,795	2,795
Ash St.	Pine St. (SR-78) - Elm St.	500	676	676
Montecito Rd.	Montecito Way - Davis St.	3,500	3,559	4,518
Montecito Rd.	Davis St. - Main St. (SR-67)	6,000	6,059	7,018

¹ According to the Traffic Impact Analysis prepared by Urban Systems Associates (2007).

TABLE 6-3

SEGMENT ANALYSIS HOURLY TRAFFIC FLOW DISTRIBUTION

MOTOR-VEHICLE TYPE	DAYTIME (7 AM TO 7 PM)	EVENING (7 PM TO 10 PM)	NIGHT (10 PM TO 7 AM)	TOTAL % TRAFFIC FLOW
HIGHWAY 78 AND STATE ROUTE 67				
Automobiles	80.0%	7.0%	13.0%	94.00%
Medium Trucks	80.0%	7.0%	13.0%	4.00%
Heavy Trucks	80.0%	7.0%	13.0%	2.00%
ALL OTHER ROADWAYS				
Automobiles	80.0%	7.0%	13.0%	95.00%
Medium Trucks	80.0%	7.0%	13.0%	4.00%
Heavy Trucks	80.0%	7.0%	13.0%	1.00%

Near Term With / Without Project: This scenario refers to the background noise conditions for near term conditions with and without the proposed project. This corresponds to the completion of the project's buildout and includes additional future cumulative developments as identified in the Montecito Ranch Traffic Impact Analysis.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. CNEL noise contours are determined for the 55, 60, 65 and 70 dBA noise levels.

The distance from the centerline of the roadway to the CNEL contours for roadways in the proposed project's vicinity roadway design Option 1 are presented in Tables 6-4 through 6-6. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. The noise contour calculations are included in Appendix "C".

6.4 Project Traffic Noise Level Contributions (Roadway Option 1)

Table 6-7 presents the comparison of the Existing Year with and without project noise levels shown in Tables 6-4 and 6-5. The roadway noise impacts will increase from 0.0 dBA CNEL to 7.5 dBA CNEL with the development of the proposed project. Table 6-8 presents a comparison of the Cumulative Year with and without project noise levels shown in Tables 6-6 and 6-7. The roadway noise impacts will increase from 0.7 dBA CNEL to 7.5 dBA CNEL with the development of the proposed project and the addition of the proposed cumulative projects.

6.5 Off-Site Transportation Related Project Noise Impact Analysis (Roadway Option 1)

Section 4 discussed the significance criteria. Roadway noise impacts would be considered significant if the project raises the noise levels above the County of San Diego 60 dBA CNEL standard, except if the existing noise level without project is 58 dBA or greater, a 3 dBA increase is allowed up to the maximum permitted by the Federal Highway Administration Standards.

TABLE 6-4

EXISTING CONDITIONS NOISE CONTOURS

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
SR-78	Ash St. - Haverford Rd.	65.1	36	114	360	1,137
SR-78	Ash St. - Olive St.	65.4	38	120	378	1,196
SR-78	Olive St. - Main St. (SR-67)	65.6	40	125	397	1,254
10th St.	Main St. (SR-67) - H St.	62.8	21	67	212	669
Main St. (SR-78)	7th St. - 3rd St.	72.1	178	561	1,775	5,614
Main St. (SR-67)	10th St. - Montecito Rd.	73.1	225	711	2,248	7,108
Main St. (SR-67)	Montecito Rd. - Hunter St.	72.8	208	658	2,080	6,578
Main St. (SR-67)	Hunter St. - Proposed SA-330	69.6	100	317	1,001	3,165
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	69.6	100	317	1,001	3,165
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	69.1	89	281	890	2,813
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	69.3	93	293	927	2,931
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	52.2	2	6	18	57
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)			DNE		
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way			DNE		
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points			DNE		
Ash St.	East Project Access - Pine St. (SR-78)	51.4	2	5	15	48
Ash St.	Pine St. (SR-78) - Elm St.	51.4	2	5	15	48
Montecito Rd.	Montecito Way - Davis St.	59.8	11	33	106	335
Montecito Rd.	Davis St. - Main St. (SR-67)	62.2	18	57	181	574

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TABLE 6-5

EXISTING PLUS PROJECT CONDITIONS NOISE CONTOURS

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
SR-78	Ash St. - Haverford Rd.	65.3	37	117	370	1,172
SR-78	Ash St. - Olive St.	66.1	45	141	446	1,409
SR-78	Olive St. - Main St. (SR-67)	66.1	45	141	447	1,413
10th St.	Main St. (SR-67) - H St.	63.1	23	71	226	715
Main St. (SR-78)	7th St. - 3rd St.	72.1	180	569	1,798	5,685
Main St. (SR-67)	10th St. - Montecito Rd.	73.2	230	728	2,302	7,279
Main St. (SR-67)	Montecito Rd. - Hunter St.	72.9	213	673	2,130	6,734
Main St. (SR-67)	Hunter St. - Proposed SA-330	69.7	102	324	1,025	3,241
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	69.8	106	334	1,055	3,337
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	69.3	93	294	929	2,938
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	69.4	96	303	959	3,034
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	59.3	9	30	95	299
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	58.3	7	24	75	236
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	59.3	9	30	95	299
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	57.5	6	20	62	197
Ash St.	East Project Access - Pine St. (SR-78)	58.9	8	27	84	267
Ash St.	Pine St. (SR-78) - Elm St.	52.7	2	6	20	65
Montecito Rd.	Montecito Way - Davis St.	59.9	11	34	108	340
Montecito Rd.	Davis St. - Main St. (SR-67)	62.2	18	58	183	579

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TABLE 6-6

EXISTING PLUS PROJECT PLUS CUMULATIVE CONDITIONS NOISE CONTOURS

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
SR-78	Ash St. - Haverford Rd.	66.9	54	170	537	1,698
SR-78	Ash St. - Olive St.	68.1	71	224	708	2,239
SR-78	Olive St. - Main St. (SR-67)	68.1	71	224	709	2,242
10th St.	Main St. (SR-67) - H St.	67.1	56	177	560	1,772
Main St. (SR-78)	7th St. - 3rd St.	73.3	234	739	2,338	7,393
Main St. (SR-67)	10th St. - Montecito Rd.	74.1	284	899	2,842	8,986
Main St. (SR-67)	Montecito Rd. - Hunter St.	73.8	263	833	2,634	8,328
Main St. (SR-67)	Hunter St. - Proposed SA-330	70.8	132	416	1,316	4,163
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	70.9	135	426	1,347	4,260
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	70.6	128	404	1,277	4,039
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	70.8	132	418	1,323	4,183
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	59.3	9	30	95	299
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	58.3	7	24	75	236
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	58.4	8	24	77	242
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	57.5	6	20	62	197
Ash St.	East Project Access - Pine St. (SR-78)	58.9	8	27	84	267
Ash St.	Pine St. (SR-78) - Elm St.	52.7	2	6	20	65
Montecito Rd.	Montecito Way - Davis St.	60.9	14	43	137	432
Montecito Rd.	Davis St. - Main St. (SR-67)	62.9	21	67	212	671

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TABLE 6-7

EXISTING YEAR PROJECT CONTRIBUTIONS

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)		
		NO PROJECT	WITH PROJECT	PROJECT CONTRIBUTION
SR-78	Ash St. - Haverford Rd.	65.1	65.3	0.1
SR-78	Ash St. - Olive St.	65.4	66.1	0.7
SR-78	Olive St. - Main St. (SR-67)	65.6	66.1	0.5
10th St.	Main St. (SR-67) - H St.	62.8	63.1	0.3
Main St. (SR-78)	7th St. - 3rd St.	72.1	72.1	0.1
Main St. (SR-67)	10th St. - Montecito Rd.	73.1	73.2	0.1
Main St. (SR-67)	Montecito Rd. - Hunter St.	72.8	72.9	0.1
Main St. (SR-67)	Hunter St. - Proposed SA-330	69.6	69.7	0.1
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	69.6	69.8	0.2
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	69.1	69.3	0.2
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	69.3	69.4	0.2
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	52.2	59.3	7.2
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	DNE	58.3	-
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	DNE	59.3	-
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	DNE	57.5	-
Ash St.	East Project Access - Pine St. (SR-78)	51.4	58.9	7.5
Ash St.	Pine St. (SR-78) - Elm St.	51.4	52.7	1.3
Montecito Rd.	Montecito Way - Davis St.	59.8	59.9	0.1
Montecito Rd.	Davis St. - Main St. (SR-67)	62.2	62.2	0.0

TABLE 6-8

CUMULATIVE YEAR PROJECT CONTRIBUTIONS

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)		
		EXISTING NO PROJECT	EXISTING PLUS PROJECT PLUS CUMULATIVE	CUMULATIVE NOISE LEVEL INCREASE
SR-78	Ash St. - Haverford Rd.	65.1	66.9	1.7
SR-78	Ash St. - Olive St.	65.4	68.1	2.7
SR-78	Olive St. - Main St. (SR-67)	65.6	68.1	2.5
10th St.	Main St. (SR-67) - H St.	62.8	67.1	4.2
Main St. (SR-78)	7th St. - 3rd St.	72.1	73.3	1.2
Main St. (SR-67)	10th St. - Montecito Rd.	73.1	74.1	1.0
Main St. (SR-67)	Montecito Rd. - Hunter St.	72.8	73.8	1.0
Main St. (SR-67)	Hunter St. - Proposed SA-330	69.6	70.8	1.2
Main St. (SR-67)	Proposed SA-330 - Highland Valley Rd.	69.6	70.9	1.3
Main St. (SR-67)	Highland Valley Rd. - Archie Moore Rd.	69.1	70.6	1.6
Main St. (SR-67)	Archie Moore Rd. - Poway Rd	69.3	70.8	1.5
Proposed SA-330 (Montecito Way)	Montecito Rd. - Montecito Ranch Rd	52.2	59.3	7.2
Proposed SA-330 (Montecito Way)	Montecito Rd. - Main St. (SR-67)	DNE	58.3	-
Proposed SA-330 (Montecito Ranch Rd.)	Project West Access to Montecito Way	DNE	58.4	-
Proposed SA-330 (Montecito Ranch Rd.)	Between Main Project Access Points	DNE	57.5	-
Ash St.	East Project Access - Pine St. (SR-78)	51.4	58.9	7.5
Ash St.	Pine St. (SR-78) - Elm St.	51.4	52.7	1.3
Montecito Rd.	Montecito Way - Davis St.	59.8	60.9	1.1
Montecito Rd.	Davis St. - Main St. (SR-67)	62.2	62.9	0.7

The project creates an increase of more than 3.0 dBA CNEL along segments of Ash Street and Montecito Way as can be seen in Table 6-7 but does not increase the existing noise levels above the 60 dBA CNEL County threshold to noise sensitive areas (i.e. rear yards). There is a cumulative impact of more than 3.0 dBA CNEL on 10th Street; however the project will only increase the existing noise level by 0.3 dBA CNEL, which is considered to be non-significant. Therefore, the proposed project's contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future sensitive noise receptors under roadway design Option 1. It should be noted: This analysis was based on a worse-case flat grading plan. Intervening topography could decrease the noise levels at the existing homes. As stated above, no rear yard areas or sensitive uses areas are located adjacent to these roadway segments and therefore no exterior impacts to existing noise sensitive land use areas are anticipated.

For existing plus project conditions, the 60 dBA contour lies at 95 feet from the centerline on Montecito Way and 84 feet from the centerline on Ash Street. This worse-case model suggests that building facades of several existing homes along these roads would experience noise levels above the County of San Diego 60 dBA CNEL standard and therefore a more detailed analysis was conducted to determine the actual contour locations.

Using the FHWA traffic noise prediction model, calculations of the expected project noise impacts to existing homes on Montecito Way and Ash Street were completed. An analysis has been performed to determine the acoustical shielding which may be used to reduce the expected roadway noise impact for the interior of these homes. Key input data for these barrier performance equations include the relative source-barrier-receiver horizontal separations, the relative source-barrier-receiver vertical separations, the typical noise source spectra and the barrier transmission loss. The building façade noise levels were analyzed for the existing plus project conditions. Under the County of San Diego noise standards, exterior façade levels above 60 dBA CNEL may require additional interior mitigation.

6.6 Noise Contour Boundaries (Roadway Option 1)

Noise contours are lines that drawn around a noise source indicating a constant or equal level of noise exposure. Noise contour boundaries are generally used as a planning tool to assess the need for additional analysis.

The noise contour boundaries were developed for unmitigated existing plus project conditions on Montecito Way and Ash Street. No barriers were included as part of the noise contour analysis. The Sound32 traffic noise prediction model was used to calculate a reference noise level for observers perpendicular to Montecito Way and Ash Street. Exhibit 6-A provides the location of the first and second floor 60 dBA CNEL noise contour boundaries for Ash Street and Exhibit 6-B provides the first and second floor 60 dBA CNEL noise contour boundaries for Montecito Way. It was identified that first floor façade levels for two homes along Montecito Way are above 60 dBA CNEL and several second story façade levels on both streets may be above the 60 dBA CNEL standard. Based on this finding, potential mitigation may be required.

6.7 Existing Plus Project Exterior Noise Analysis (Roadway Option 1)

The analysis was modeled assuming existing plus project traffic volumes along Montecito Way and Ash Street. A site-survey of the existing homes on Montecito Way and Ash Street was conducted on February 12, 2007. It was found that all the homes along Montecito Way were single story and only two homes within close proximity of Ash Street were two-story. It should be noted that both the two-story homes along Ash Street are outside the identified 60 dBA CNEL contour as previously shown in Exhibit 6-A. Therefore the only building facades which will potentially have unmitigated noise levels above 60 dBA CNEL are two single-story homes located along Montecito Way.

Two mitigation options will reduce building façade levels to below 60 dBA CNEL. One option is to incorporate 4-foot high noise barriers along Montecito Way, in front of both affected homes, which would sufficiently mitigate building façade levels. Option two is to utilize rubberized asphalt on the roadway in front of the two affected homes, extending 300 feet beyond the homes in both directions. Measurements were taken by Urban Crossroads along State Route 52 (SR 52) where concrete pavement meets rubberized asphalt pavement in order to obtain the difference in noise levels between the two types of pavement. The results showed a range of 2 to 4 dBA Leq difference between the concrete section of the SR 52 and the asphalt section of the SR 52. An average reduction of -3 dBA can be taken wherever rubberized asphalt is used. This is sufficient to reduce building façade levels to below 60 dBA CNEL at both affected homes. The incorporation of either mitigation option will adequately reduce the building façade levels at both affected homes. No additional mitigation would be required to comply with the County of San Diego exterior noise standards along Montecito Way and Ash Street. Exhibit 1-A shows the two mitigation options required to bring building façade noise levels to below 60 dBA CNEL.

Modeled observer locations for Ash Street are presented in Exhibit 6-C and for Montecito Way in Exhibit 6-D. The results of the mitigated building façade levels are shown in Table 6-9. The Sound32 input and output decks for existing plus project conditions are provided in Appendix “D”.

6.8 Noise Control Barrier Construction Materials (Roadway Option 1)

The designed noise screening may only be accomplished if the barriers weight is at least 3.5 pounds per square foot of face area and have no decorative cutouts or line-of-site openings between shielded areas and the roadways. The recommended noise control barrier may be constructed using one of the following alternative materials:

TABLE 6-9

EXISTING PLUS PROJECT BUILDING FACADE EXTERIOR NOISE LEVELS (dBA CNEL)

RECEPTOR	RECEPTOR LOCATION	UNMITIGATED FIRST FLOOR BUILDING FACADE NOISE LEVEL (dBA CNEL)	MITIGATED FIRST FLOOR BUILDING FACADE NOISE LEVEL UTILIZING 4-FOOT HIGH NOISE BARRIER (dBA CNEL)	MITIGATED FIRST FLOOR BUILDING FACADE NOISE LEVEL UTILIZING RUBBERIZED ASPHALT (dBA CNEL)	UNMITIGATED SECOND FLOOR BUILDING FACADE NOISE LEVEL (dBA CNEL) ¹	BARRIER HEIGHT (IN FEET) ²
1	MONTECITO WAY	62.8	59.0	59.8	DNE	4.0
2	MONTECITO WAY	58.8	58.8	58.8	DNE	0.0
3	MONTECITO WAY	52.5	52.5	52.5	DNE	0.0
4	MONTECITO WAY	57.7	57.7	57.7	DNE	0.0
5	MONTECITO WAY	60.1	60.1	60.1	DNE	0.0
6	MONTECITO WAY	57.8	57.8	57.8	DNE	0.0
7	MONTECITO WAY	57.2	57.2	57.2	DNE	0.0
8	MONTECITO WAY	63.0	58.7	60.0	DNE	4.0
9	MONTECITO WAY	54.9	54.9	54.9	DNE	0.0
10	MONTECITO WAY	59.7	59.7	59.7	DNE	0.0
11	ASH STREET	50.7	50.7	50.7	DNE	0.0
12	ASH STREET	57.2	57.2	57.2	DNE	0.0
13	ASH STREET	52.2	52.2	52.2	DNE	0.0
14	ASH STREET	53.5	53.5	53.5	DNE	0.0
15	ASH STREET	52.8	52.8	52.8	DNE	0.0
16	ASH STREET	56.2	56.2	56.2	DNE	0.0
17	ASH STREET	52.0	52.0	52.0	DNE	0.0
18	ASH STREET	53.5	53.5	53.5	DNE	0.0
19	ASH STREET	54.2	54.2	54.2	55.2	0.0
20	ASH STREET	51.4	51.4	51.4	53.2	0.0

¹ Homes at receptors 1-18 are one-story² Barrier height in feet above pad or roadway elevation, whichever is greater to achieve maximum insertion loss.

1. Masonry block;
2. Stucco veneer over wood framing (or foam core), or 1 inch thick tongue and groove wood of sufficient weight per square foot;
3. Glass (1/4 inch thick), or other transparent material with sufficient weight per square foot;
4. Earthen berm;
5. Any combination of these construction materials.

Barriers must utilize ¼ thick glass or an equivalent transparent material to meet the required noise mitigations measures. The recommended barrier must present a solid face from top to bottom. Unnecessary openings or decorative cutouts should not be made. All gaps (except for weep holes) should be filled grout or caulking.

6.9 Traffic Noise Prediction Model Inputs (Roadway Option 2)

Tables 6-10 and 6-11 present the FHWA Traffic Noise Prediction Model roadway parameters for roadway design Option 2 used in this analysis. Hard site conditions were used to develop noise contours and analyze noise impacts to the project site. This will provide a worse-case analysis.

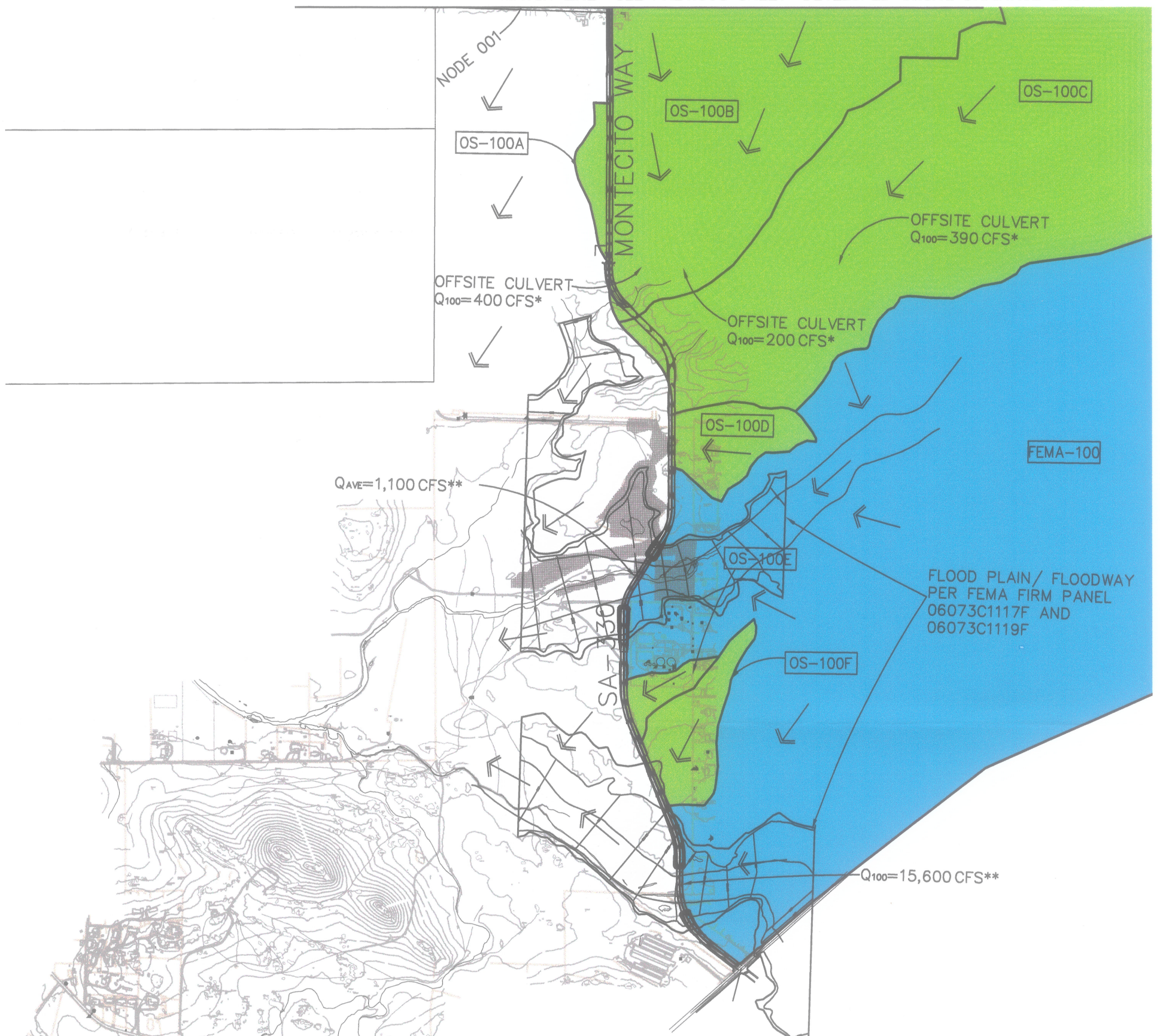
The average daily traffic volumes used for the on-site analysis in this study are presented in Table 6-11. The traffic volumes were obtained from the Traffic Impact Analysis prepared by Urban Systems Associates (2007).

Table 6-12 presents the hourly traffic flow distributions (vehicle mix) used for this analysis. The future traffic noise model utilizes previously accepted vehicle mixes of 94% Autos, 4% Medium Trucks and 2% Heavy Trucks for Highway 78 and State Route 67 and 95% Autos, 4% Medium Trucks and 1% Heavy Trucks for all other roadways. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model.

SA 330 EXTENSION:

DRAINAGE INFORMATION

MATCH LINE SEE PREVIOUS SHEET "DEVELOPED ONSITE DRAINAGE BASINS"



LEGEND

-  DRAINAGE BASIN BOUNDARY
-  DRAINAGE BASIN I.D.
-  DIRECTION OF FLOW

NOTES

- * Q_{100} VALUE FROM "FLOOD AND DRAINAGE MANAGEMENT REPORT FOR THE RAMONA AREA (SPECIAL DRAINAGE AREA #8)", LEEDSHILL-HERKENHOFF, INC., JUNE 1992
- ** Q_{100} APPROXIMATED FROM LOCATION SHOWN ON FIGURE 2 OF "HYDROLOGY REPORT FOR SANTA MARIA CREEK SFC 3156, DATED NOVEMBER 1997", PROVIDED BY SAN DIEGO COUNTY FLOOD CONTROL DISTRICT,

SCALE: 1"=1200'




9665 CHESAPEAKE DRIVE
SUITE 320
SAN DIEGO, CA 92123-1352

PHONE: 858.694.5660
FAX: 858.694.5661
www.scengr.com

MONTECITO RANCH DEVELOPED OFFSITE ROADWAY DRAINAGE BASINS COUNTY OF SAN DIEGO TRACT 5250

BLUE TEAM Ken Brage

FLOOD AND DRAINAGE MANAGEMENT REPORT

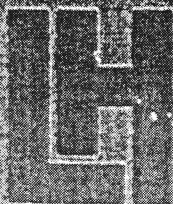
FOR

THE RAMONA AREA

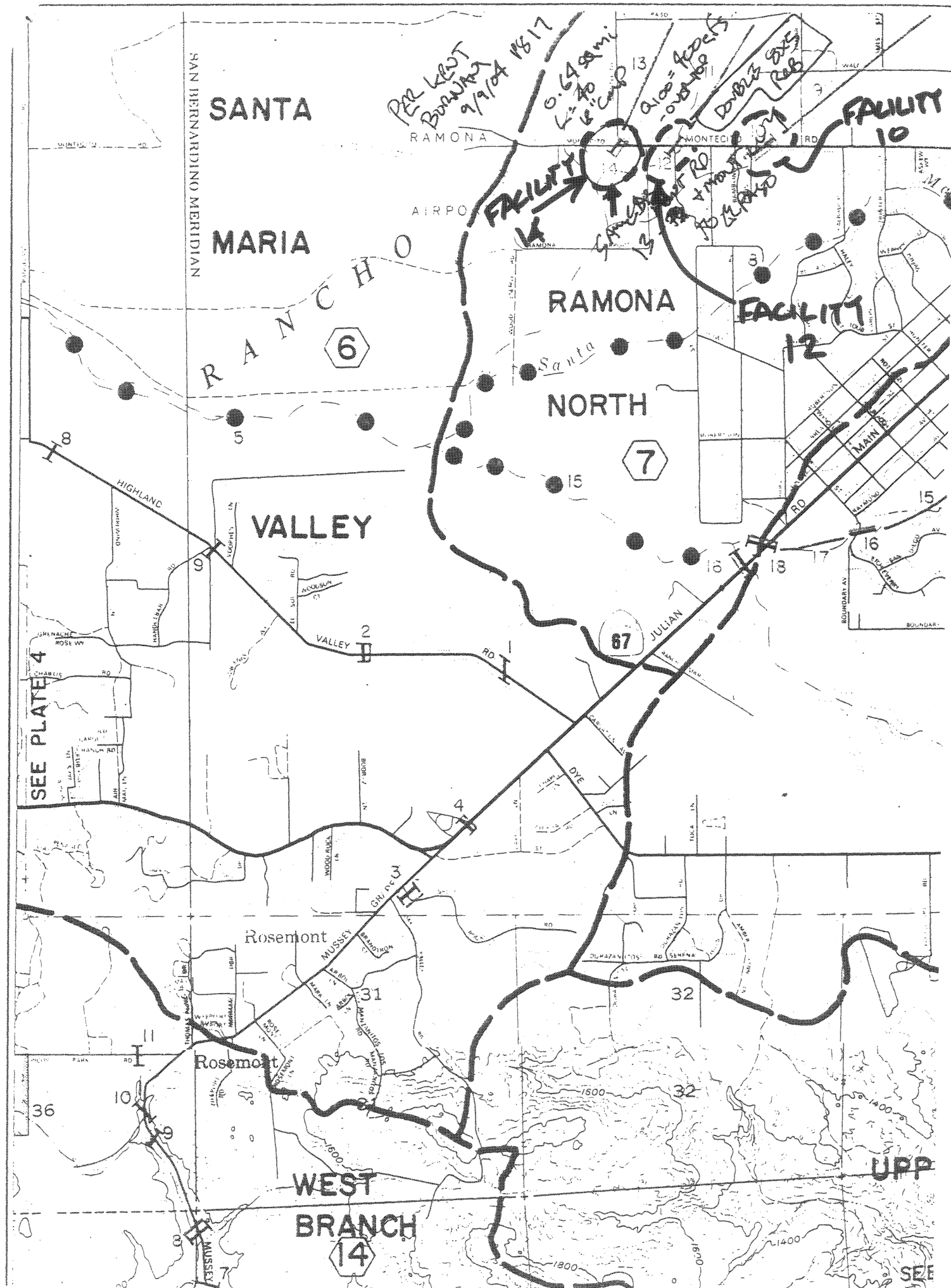
(SPECIAL DRAINAGE AREA #8)

COUNTY OF SAN DIEGO FLOOD CONTROL DISTRICT

JUNE 1992



LEEDSHILL-HERKENHOFF, INC.
10225 Barnes Canyon Road • Suite A210
San Diego, California 92121



The recommended improvements shown in this table are for the purpose of providing a basic design for cost estimating. Environmental review and final design will be necessary before any improvements can be constructed.

SUMMARY OF EXISTING CONDITIONS AND RECOMMENDED IMPROVEMENTS

Basin No.	Facility No.	Plate No.	Location	Drainage Area (SQ MI)	Length (FT)	Existing Conditions	Capacity CFS			Associated Problems	Recommended Improvements	Installation Cost (Dollars)	Priority
							Existing	50 YR	Required 1992 100 YR				
7	6	5	Between Facility 5 & Montecito Rd.	30.00	2,000	Santa Maria Ck., Flood Plain Mapped		15,600		Flooding Of Future Development	None	\$3,800	3
7	7	5	Montecito Rd. Crossing of Santa Maria Ck.	30.00	130	3-Span Bridge 130' Long	10,000	15,600		Overtops Bridge	Add 4 - 12' x 10' RCB	\$94,500	4
7	8	5	Santa Maria Ck., Downstream from Montecito Rd.	31.50	12,000	Natural Ck. Bed, Flood Plain Mapped		15,600		Flooding Of Existing And Future Development	None	\$22,700	2
7	9	5	From Montecito Ave., 5,000 Ft. West of 7.	0.50	4,900	Natural Drainage		390		Flooding Of Existing And Future Development	Earth Ch. b = 10' d = 4'	\$392,200	2
7	10	5	On Montecito Rd., Downstream of Facility 9.	0.50	40	42" x 29" CMPA	52	390		Overtops Road $\Rightarrow 12 \text{ cfs/ac}$	Add Double 8' x 5' RCB	\$31,200	4
7	11	5	From Montecito Rd. to El Paso St.	0.30	2,500	Natural Drainage		200		Flooding Of Future Development	Earth Ch. b = 8' d = 3'	\$146,800	3
7	12	5	On Montecito Rd., Downstream of Facility 11.	0.30	40	49" x 33" CMPA	78	200		Overtops Road $\Rightarrow 1.0 \text{ cfs/ac}$	Add Double 6' x 4' RCB	\$23,100	4

COUNTY OF SAN DIEGO
community services agency
department of sanitation & flood control

**COMPREHENSIVE PLAN
FOR
FLOOD CONTROL and DRAINAGE
ZONE 1
SAN DIEGO COUNTY
FLOOD CONTROL DISTRICT**

JULY 1976

K KOESIG, INC. ENGINEERING-ARCHITECTURE-PLANNING

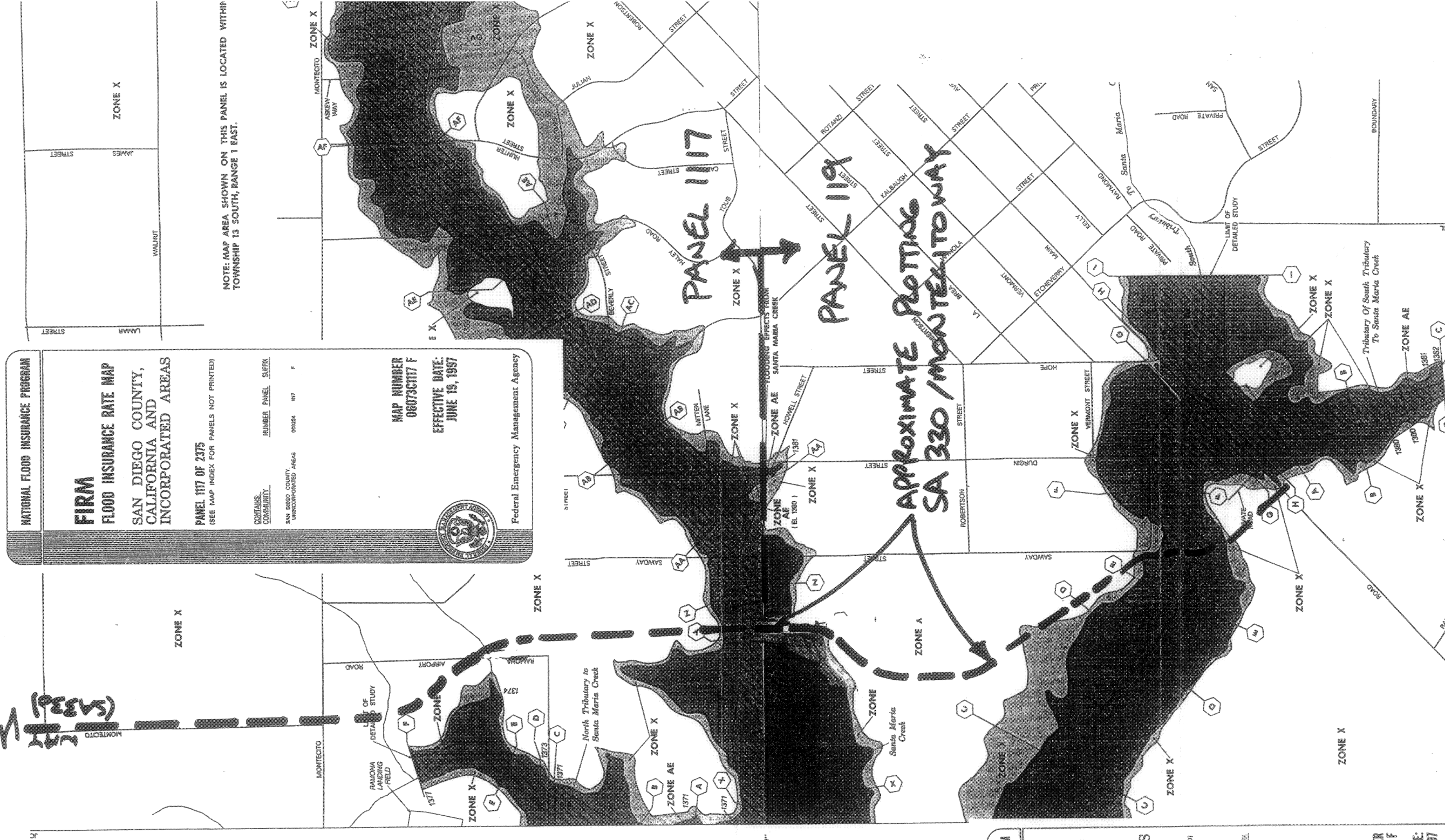
The recommended improvements shown in this table are for the purpose of providing a basic design for cost estimating. Environmental review and final design will be necessary before any improvements can be constructed.

SUMMARY OF EXISTING CONDITIONS AND RECOMMENDED IMPROVEMENTS

Basin No.	Facility No.	Plate No.	Location	Drainage Area (SQ MI)	Length (FT)	Existing Conditions	Capacity CFS			Associated Problems	Recommended Improvements	Installation Cost (Dollars)	Priority
							Existing	50 YR	100 YR				
7	13	5	From Junction of Montecito Rd. & Montecito Way to El Paso St.	0.64	2,300	Natural Drainage			400	Flooding Of Future Development	Earth Ch. b = 8' d = 4'	\$168,900	3
7	14	5	Junction of Montecito Rd. & Montecito Way	0.64	40	18" CMP			400	Overtops Road	Double 8' x 5' RCB	\$31,200	4
7	15	5	Between Hwy. 67 & Santa Maria Creek	9.00	5,300	Natural Drainage, Flood Plain Mapped			5,800	Flooding Of Possible Future Development	None	\$10,000	3
7	16	5	Main St., S.W. of Ramona	3.20	75	2 - 8' x 6' RCB	1,040		1,650	Overtops Road	Add 10' x 6' RCB	\$45,300	4
7	17	2	Crosses Poplar St. East of Pine St.	—	—	48" Pipe	—	—	—	Adequate	None	\$18,320	5
7	18	2	Crosses Pamo Rd. South of Pile St.	—	—	8' x 2' RCB	—	—	—	Adequate	None	\$24,160	5
7	19	5	Eleventh St. at "D" St. Northerly.	0.12	1,285	54" RCP	81		80	Adequate	None	\$257,000	5
7	20	5	Seventh St. Between "B" St. and "D" St.	0.10	907	60" CIP	189		187	Adequate	None	\$181,400	5

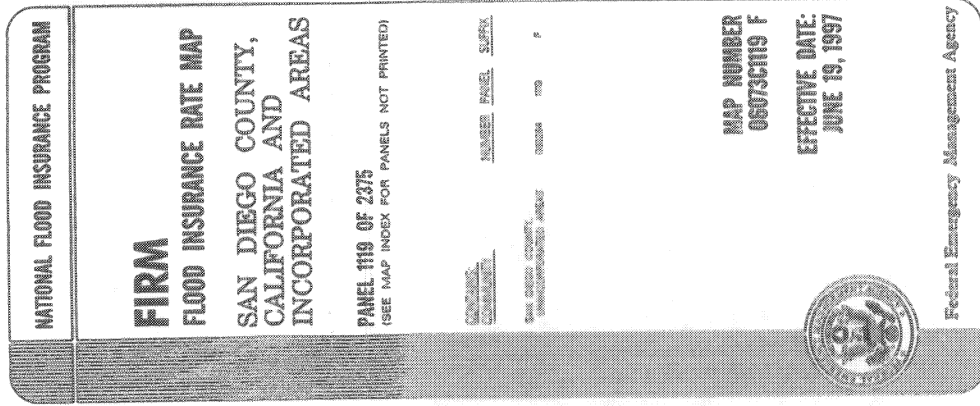
Handwritten note in cloud: $\Rightarrow 1.0 \text{ cfs/ft}$

PROJ 561 (TMS250)



ELEVATION REFERENCE MARKS
(FEET NGVD)

1431.47 USCGS bronze disk stamped "Z 41 1977" located 3.1 miles southwest along State Highway 67 from the San of America at Ramona, 0.15 mile southeast of the house on the edge of the highway, at the edge of the highway, in the top of a large boulder projecting 2 feet above the ground, northwest of the highway, 1.3 feet north of the fence, and approximately 7 feet higher than the highway.



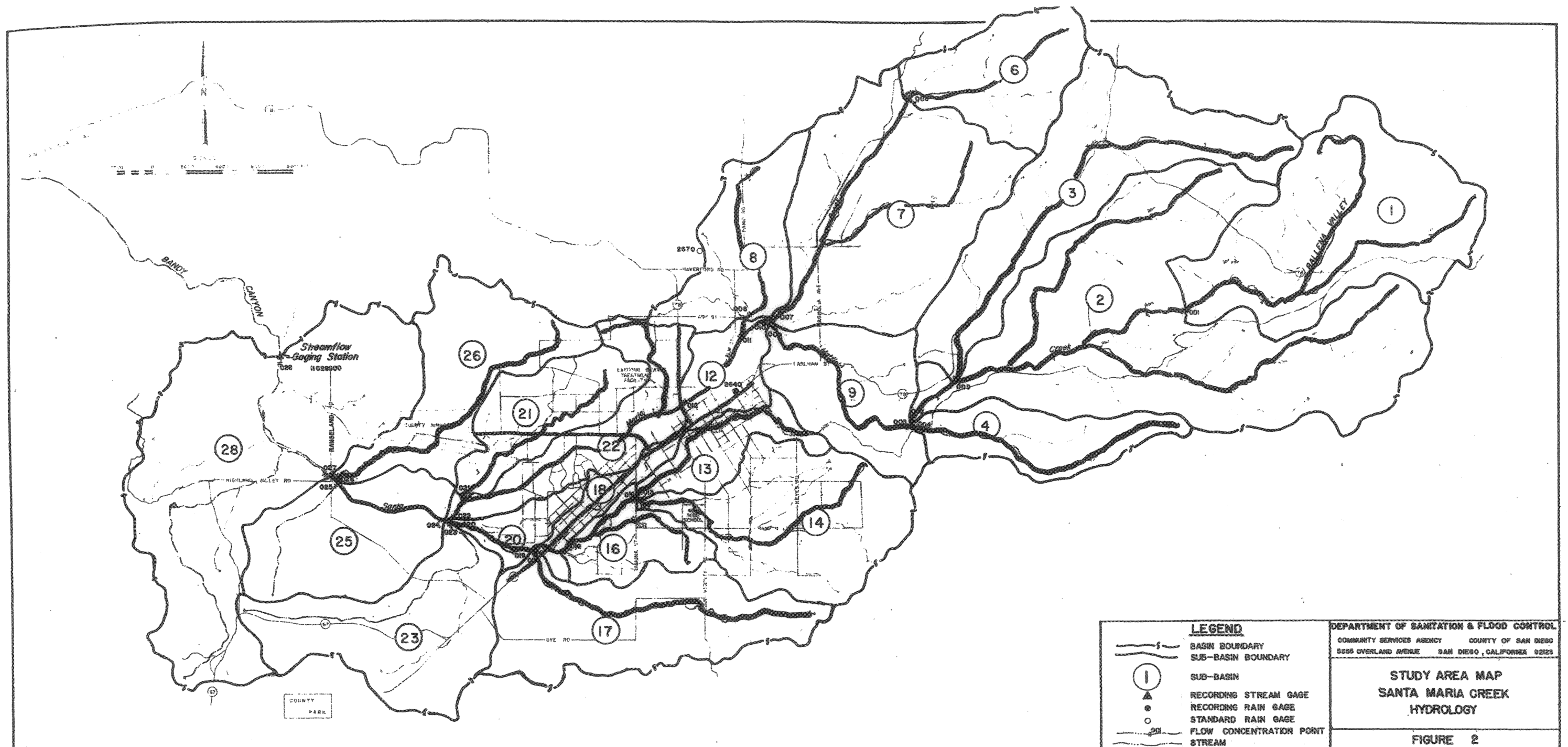
HYDROLOGY REPORT
FOR
SANTA MARIA CREEK
SFC 3156
NOVEMBER 1977

DEPARTMENT OF SANITATION & FLOOD CONTROL
COMMUNITY SERVICES AGENCY COUNTY OF SAN DIEGO
5555 OVERLAND AVENUE SAN DIEGO, CALIFORNIA 92123

PEAK FLOOD FLOWS

Concen- tration Point No.	Drainage Area Sq. Mi.	10-Year Discharge C. F. S.	50-Year Discharge C. F. S.	100-Year Discharge C. F. S.	500-Year Discharge C. F. S.
1	4.6	500	2,200	3,900	10,000
2	16.9	1,300	6,300	11,000	28,600
3	4.0	300	1,400	2,500	6,500
4	1.6	200	900	1,500	3,900
5	18.4	1,500	6,900	12,000	31,200
6	2.0	200	900	1,600	4,200
7	6.7	600	2,700	4,700	12,200
8	1.8	200	900	1,500	3,900
9	20.8	1,700	7,900	13,700	35,600
10	27.1	1,900	9,000	15,600	40,500
11	28.9	1,900	9,000	15,600	40,500
12	29.8	1,900	9,000	15,600	40,500
13	1.0	100	500	900	2,300
14	3.2	300	1,300	2,200	5,700
15	4.2	400	1,700	3,000	7,800
16	5.3	500	2,200	3,800	10,000
17	3.1	200	900	1,600	4,200
18	5.8	400	2,100	3,600	9,400
19	8.8	700	3,400	5,800	15,000
20	9.3	700	3,400	5,800	15,000
21	1.6	100	600	1,100	2,900
22	33.1	1,900	9,200	15,600	42,000 ✓
23	2.9	200	800	1,400	3,600
24	45.3	2,100	10,000	17,300	45,000
25	2.5	200	900	1,500	3,900
26	2.6	200	900	1,500	3,900
27	50.3	2,100	10,000	17,300	45,000
28	56.9	2,100	10,000	17,300	45,000

TABLE 1B



SA 330 EXTENSION:

STORM WATER MANAGEMENT INFORMATION

PROJECT DESCRIPTION

Montecito Ranch is a proposed single-family residential subdivision in the community of Ramona, County of San Diego, California (proposed Tract 5250). The Project is bound by the Rancho Santa Maria line which is the north-west boundary of the project, Highway 78, the north boundary and the remainder of the project is generally west of Pine Street and north of Montecito Road. The project contains **935 acres** and is generally a portion of Sections 5,7,8,9, and 17, Township 13 South, Range 1 East. The "Weekend Villas" subdivision exists to the North directly across Highway 78 and Ramona Airport is south of the project. The proposed subdivision will contain 434 lots: 417 single-family residential lots (20,000 square-foot minimum in size), a school site, 13 lots which include uses for open space and drainage and infrastructure requirements, a park, a historic park site, and a wastewater facility. Park and school permanent post-construction BMPs shall be required and are to be determined by proposed developments/developers at the building permit stage. The project will be developed in two map units.

The rural type lots have a developed foot print which minimizes disturbance to the natural environment, as well as minimizing the impervious surface area, by consolidating graded areas and building areas at the extreme front of each lot adjacent to the public street. Public access to open space will be provided through the incorporation of trail systems.

Offsite roadway mitigation and support of County routes has yielded the development of SA330 (Montecito Way) from the project boundary south to Montecito Road and continuing south to Highway 67 (Main Street). See Attachment D, "Treatment BMP Location Map".

Table A Land Use by Planning Area

Table A summarizes land use by unit on an acreage basis. Off-site improvements conditioned to this tentative map occur within existing public right-of way.

PLANNING AREA	NO. OF LOTS	NO. OF RESIDENTIAL LOTS	RESIDENTIAL DEVELOPMENT AREA ¹ (AC)	STREET DEDICATION ² (AC)	HOA LOTS ³ (AC)	DEDICATED OPEN SPACE ⁴ (AC)	PARK SITE ¹ (AC)	CHARTER SCHOOL SITE ¹ (AC)	HISTORICAL PARK SITE ¹ (AC)	WASTEWATER FACILITY	TRAILS (INSIDE ROADWAY) (LF)
UNIT 1	249.00	243.00	142.1	21.5	6.4	--	--	--	--	--	--
UNIT 2	185.00	174.00	108.1	17.7	5.7	--	--	--	--	--	--
WITHIN PROJ. BDY. ²				23.6	--	554.0	8.3	10.6	11.9	25.4	11243.5
TOTAL	434.00	417.00	250.2	62.7	12.1	554.0	8.3	10.6	11.9	25.4	11243.5
PERCENT IMPERVIOUS ³			20%	95%	0%	N/A	10%	80%	NO CHANGE	2%	
PERCENT OF SITE CONVERTED TO IMPERVIOUS SURFACES			5.4%	6.4%	0.0%		0.0%	0.0%		0.0%	

NOTES:

¹ INCLUDES BRUSH MANAGEMENT AREA (29.52 AC. IN UNIT 1, 29.38 AC. IN UNIT 2, & 10.16 AC. WITHIN PROJ. BDY., TOTAL = 69.06 AC.); DOES NOT INCLUDE PRIVATE ROAD EASEMENTS

² INCLUDES ROADWAY DEDICATIONS WITHIN LOTS 429 & 430 AND MONTECITO RANCH ROAD WITHIN THIS ROW, TO BE CONSTRUCTED INDEPENDENTLY OF UNIT 1 AND UNIT 2

³ PERCENT IMPERVIOUS BASE UPON, "SAN DIEGO COUNTY HYDROLOGY MANUAL, DPW FLOOD CONTROL SECTION: JUNE 2003"

⁴ INCLUDES TRAILS PASSING THROUGH OPEN SPACE

⁵ INCLUDES PRIVATE ROAD EASEMENTS WITHIN RESIDENTIAL DEVELOPMENT

⁶ INCLUDES HOA MAINTENANCE LOTS, LOTS 79 & 322 USED FOR PRIVATE DETENTION BASINS, AND LOT 294 USED FOR A PUBLIC SEWER PUMP STATION

PRIORITY PROJECT DETERMINATION

Please check the box that best describes the project. Does the project meet one of the following criteria?

PRIORITY PROJECT	YES	NO
Redevelopment within the County Urban Area that creates or adds at least 5,000 net square feet of additional impervious surface area		X

E-2 Curb Inlet Filtration (CLEARWATER)

Clearwater Curb Inlet Filtration Units will be utilized to treat runoff from public and private right-of-ways. These units have been approved by the County of San Diego as an acceptable filtration BMP. The Clearwater units treat "first flush" (Q_F) minor storms and allow bypass of the filter for large storm events. The Clearwater filtration system consists of three separate screens that filter out large debris and trash, three chambers that settle out suspended solids, a suspended adsorbent boom to remove oil and petroleum products in the first chamber, and a media filter as the final step in the treatment train, used to remove smaller particulates and dissolved metals. Laboratory testing has shown that the Clearwater units provide removal rates of 97% for total suspended solids (TSS), 86% for oil and grease, 81% for lead, and 83% for zinc. These units will remove pollutants to the MEP, prior to release to the natural bio-swailes within open space areas. Refer to the end of this section for product specifications.

- Design Criteria: Clearwater units, identified on the BMP map within Attachment D, will treat runoff generated from drainage roadway basins.
- a) Manufacture's Specifications for the Clearwater units show a filtration capacity of 0.46 cfs. See specification at the end of this section.
- b) Based upon County of San Diego, Storm Water Standards, flow based BMPs are required to treat the first 0.2in/hr of runoff. Therefore, these units can treat flows from tributary areas up to 2.42 acres ($A = Q_F / (I * C) = 0.46 \text{ cfs} / (0.2 \text{ in/hr})(0.95) = 2.42 \text{ Acres}$). 34 Clearwater units will be utilized to treat runoff from approximately 42 acres of roadway basin, resulting in an average of 1.24 acres/unit. Therefore, Clearwater units have the ability to treat all roadway runoff with excess capacity.
- c) Manufacture criteria are presented at the end of this section documenting removal levels and specific water control device information.

Appropriate Applications and Siting Constraints: There are no unique siting criteria. The Clearwater Curb Inlet Filtration units can be installed in any standard sized curb inlet.

Vector Control: As indicated in the attached manufacturer's information, vector control is not a problem with the Clearwater units. The unit has been designed to slowly drain out the bottom so no standing water remains after a storm event.

F-6 BMP's Maintenance Annual Cost Estimate:

A detailed cost estimate of the Post-Construction Structural BMP Maintenance will be developed during the Grading Plan and Improvement Plan Engineering. Since the project is in the preliminary development phase Sections F-4A through F-4C are only an initial estimate.

F-6A Detention Basin (DB)

Maintenance components include:

- a) DB Inspection, detailed in Section F-1 and summarized as: once a month, after every large storm, on a weekly basis during extended periods of wet weather.
- b) Mowing, Trash and Debris, Sediment Removal, Mechanical Components, Elimination of Mosquito Breeding Habitats.

Initial consultation with Environmental Maintenance Service Company D & D Landscape (619) 287-9311, incorporating items a & b above, annual service is estimated between \$300.00 to \$500.00 per acre of detention facility; currently the project proposes approximately ten acres for DBs.

ESTIMATED ANNUAL COST: \$ 5,000.00 (initial estimate only, final cost to be determined at time of construction)

F-6B Curb Inlet Filtration Units (CLEARWATER)

Maintenance components include:

- a) CLEARWATER Inspection, detailed in Section F-2, and summarized as: after every runoff event in the first 90 days, every 60 days during rainfall season, and once at the end of rainfall season.
- b) Replacement of oil adsorbent boom and media filter at least twice a year.

Maintenance costs have been estimated utilizing County Appendix H Estimated O & M Costs for BMP Projects, cost for Inlet Inserts – Fossil Filter.

ESTIMATED ANNUAL COST: \$ 41,419.00 [35 Clearwater units utilized ~ \$1,183.40/unit] (initial estimate only, final cost to be determined at time of construction)

F-6C Curb Inlet Inserts (BIOCLEAN)

Maintenance components include:

- a) BIOCLEAN Inspection, detailed in Section F-3, and summarized as: quarterly, after every large storm, on a weekly basis during extended periods of wet weather.
- b) Annual replacement of oil adsorbent boom.

Maintenance costs have been estimated utilizing County Appendix H Estimated O & M Costs for BMP Projects, cost for Inlet Inserts – Fossil Filter.

ESTIMATED ANNUAL COST: \$ 47,336.00 [40 filters utilized ~ \$1,183.40/filter]
(initial estimate only, final cost to be determined at time of construction)

F-6D Hydrodynamic Separator (VORTSENTRY)

Maintenance components include:

- c) VORTSENTRY Inspection, detailed in Section F-4, and summarized as: quarterly, after every large storm, on a weekly basis during extended periods of wet weather.
- d) Removal of accumulated sediment.

Maintenance costs have been estimated utilizing County Appendix H Estimated O & M Costs for BMP Projects, cost for Media Filter – Sand without Pump.

ESTIMATED ANNUAL COST: \$ 27,265.80 [6 units utilized ~ \$4,544.30/unit]
(initial estimate only, final cost to be determined at time of construction)

F-6E Bio-Filters

ESTIMATED ANNUAL COST: No Annual Cost is anticipated; outside normal Grounds Maintenance. The majority of Bio-Filtration will be occurring on the single-family lots prior to capture by the Public Storm Drain System, down stream of the outlet structure of the DBs (post treatment), and down stream of the detention basins; outside the developed areas and outside project lands requiring resource protection. As such no maintenance will be required.

The ClearWater BMP Curb Inlet Filter

The ClearWater BMP is a powerful advancement in sidewalk curb inlet filtration technology. The patent-pending, filter train design allows stormwater flows to be screened, settled, and then filtered, all within the confines of an existing curb inlet drain box. This aggressive filtration design significantly reduces concentrations of trash, sediment, hydrocarbons, metals, and nutrients. Specifically designed for retrofitting within the existing curb and gutter infrastructure, it handles heavy storm flows with ease, dry-weather flows expertly, utilizes mosquito free technology and requires no excavation or concrete modification. The ClearWater BMP truly is your curb inlet pollution solution.

Features

- Fits into existing curb inlets
- Non-scouring
- Large storage capacity
- Easy street level maintenance
- No clogging under heavy flows
- Durable stainless steel construction
- Affordable

Benefits

- Improves downstream water quality
- High removal rate of Total Suspended Solids – 97%
- Located close to pollutant sources
- Reduces concentrations of trash, sediment, hydrocarbons, metals and nutrients
- NPDES Compliant – now and in the future

ClearWater BMP



Patent Pending

ClearWater Solutions™

STORM DRAIN SPECIALISTS

2259 Lone Oak Lane • Vista, CA 92084

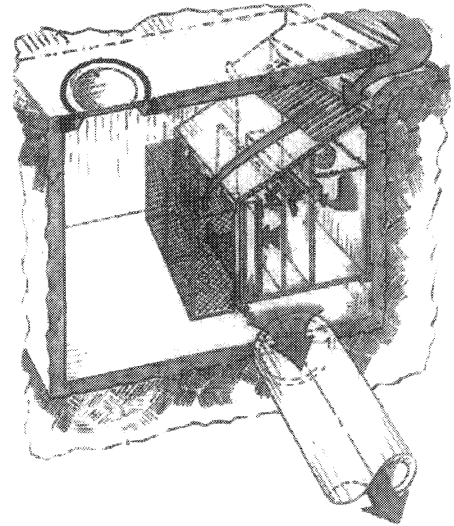
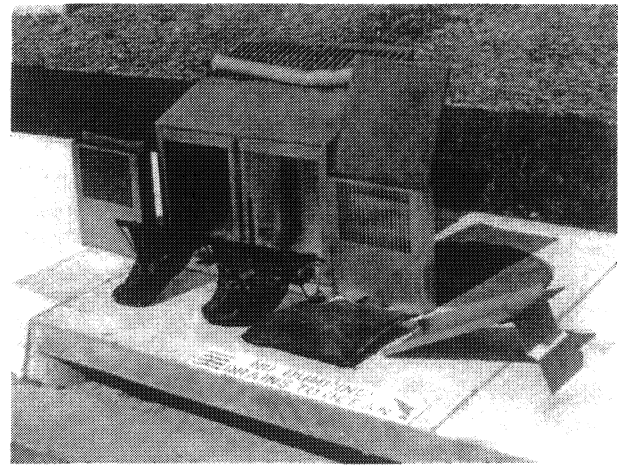
www.ClearWaterBMP.com

Toll Free: 800-758-8817 • F: 760-598-1371

System Operation

The ClearWater BMP is a powerful advancement in sidewalk curb inlet filtration technology. Specifically designed for retrofitting under the sidewalk within the curb and gutter system, it handles heavy storm flows with ease, utilizes mosquito free technology, and requires no excavation or concrete modification.

The revolutionary design of the ClearWater BMP allows storm water to be screened three times, settled three times, make constant surface contact with an oil and grease separator, pass through a synthetic mesh filter, and finally pass through a column of porous media comprised of natural zeolites, perlite, and activated carbon. Filter media can be tailored to site specific needs. These media and the unique engineering design of the filter support containing them, enhances removal of smaller particulates, thus improving the quality of life downstream.



Performance Testing

Using the "typical" storm water calculations of 0.2 inches (3,780 gallons) of rain per hour for an ordinary curb inlet, the ClearWater BMP performed very well. Proven testing from San Diego State University shows the ClearWater BMP has removal rates of 97% for total suspended solids (TSS), 86% for oil and grease (O & G), 81% for lead (Pb), and 83% for zinc (Zn). Satisfactory rates of removal were accomplished with heavy metals in solution, a claim that will not be found in most competitors literature since most only clean out larger settled constituents, while the finer materials flow downstream contaminating wildlife and beaches.

Removal with Mixed-Media Filter at 64 GPM

	"Typical" % Removal with ClearWater BMP
TSS: Total Suspended Solids	97
O&G: Oil & Grease	86
Pb: Lead	81
Zn: Zinc	83

What is your NPDES compliance criteria?

ClearWater BMP Treatment Capacity					
Rainfall Intensity, Inches/Hr.	0.20	0.25	0.50	0.75	1.0
R.O.W. Treatment Capacity, Acres	2.5	2.0	1.0	0.67	0.50

200 GPM (.46 CFS) before bypassing occurs.



2259 Lone Oak Lane • Vista, CA 92084

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County of San Diego

DEPARTMENT OF PUBLIC WORKS

JOHN L. SNYDER
DIRECTOR

5555 OVERLAND AVE, SUITE 2188
SAN DIEGO, CALIFORNIA 92123-1295
(858) 694-2212 FAX: (858) 268-0461
Web Site: sdcdpw.org

November 28, 2005

Stewart McClure
Clearwater Solutions, Inc.
2259 Lone Oak Lane
Vista, Ca 92084

Dear Mr. McClure:

CLEARWATER SOLUTION FOR USE IN THE COUNTY OF SAN DIEGO

The County of San Diego (County) has reviewed your inquiry regarding the approval of ClearWater Solution™ Best Management Practice (BMP) for use in the County of San Diego.

Since the County regulates the use of structural treatment control BMPs only in the unincorporated portions of the County, this response has no applicability to projects located within incorporated cities in the County. Furthermore, the County does not endorse this product.

After reviewing the information provided to the County, ClearWater Solution™ BMP shall be accepted for use as a structural treatment BMP under the category of filtration system. This decision is based on test results from San Diego State University.

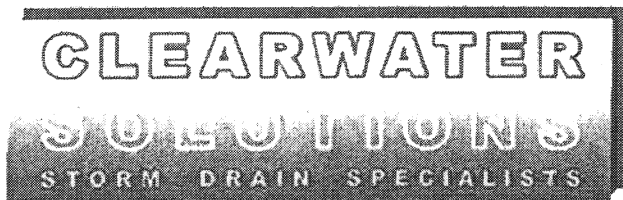
Thank you for informing the County about your product. If you have any questions or need additional information, please contact Cid Tesoro, Flood Control Engineer, at (858) 694-3672, or e-mail at Cid.Tesoro@sdcounty.ca.gov.

Sincerely,

CHANDRA L. WALLAR
Assistant Director

For

cc: Cid Tesoro (O326)


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SAN DIEGO STATE UNIVERSITY

SDSU Test Data The ClearWater BMP

Performance Testing of CLEARWATER SOLUTIONS, Inc.
Storm Water Treatment Prototype "The ClearWater BMP"

November 25, 2003

Mirat Gurol, Ph.D.

Greg Loraine, Ph.D.

Dept. of Civil and Environmental Engineering

San Diego State University Summary A prototype of the CLEARWATER SOLUTIONS, INC. ClearWater BMP storm water retrofit filter was tested at the Environmental Engineering Laboratories at San Diego State University. The prototype was ¼ size of the full unit, but was tested at hydraulic retention times typical of precipitation events in southern California.

Two series of tests were run using two different synthetic storm water. The first tests were run using "Typical" storm water, which exhibited characteristics of real storm water, containing suspended solids in a wide size range, floating oil, and typical concentrations of dissolved metals. The prototype performed very well in these initial tests, so additional tests were done with a "Worst-case" storm water. The "Worst-case" storm water had primarily very fine suspended solids, emulsified oil, dissolved phosphorous, and high concentrations of dissolved and particulate metals. Total Suspended Solids (TSS) removal efficiency was determined at four flow rates. Empirical equations for removal of different size fractions were developed. The removal efficiencies for oil and grease, total phosphorous, copper, lead, and zinc, were measured at two flow rates. The effectiveness of the perlite-zeolite-activated carbon filter (media filter) was also tested. Using the "Typical" storm water calculations at 0.2 inches (3,780 gallons) of rain per hour for an ordinary curb inlet, the ClearWater BMP performed very well. The unit achieved 97% removal of TSS (the EPA standard for Nonpoint Source Pollution in Coastal waters is 80% removal of TSS). Floatable oil and grease was removed with an efficiency of 86% (100% at 16gpm). Zinc was removed at the rate of 83%. Copper came in at 28% (52% at 16gpm). And, lead removal was at 81%. The mixed media filter did not improve TSS removal but did substantially enhance removal of oil and grease, and dissolved metals.

Table 10 compares the removal efficiency of the unit with and without the mixed media filter at flow rates equivalent to 64 gpm in the full size unit. The presence of the filter did not significantly increase TSS removal, even for the small size particles. However, the filter was able to capture emulsified O&G droplets that the oil sock missed. This indicates that adsorption to activated carbon present in the filter is an important removal mechanism for O&G removal. The most dramatic effect of the filter was seen in the removal of dissolved metals. In the "typical" storm water scenario where most of the particle associated metals were attached to fairly large particles, the effectiveness of the filter was not as apparent due to pre-settling. In the "worst-case" storm water scenario, where the metals were either soluble or attached to fine particles, no removal of the metals was achieved without the filter. The filter captured 56% of Zn, 33% Cu, and 14% of Pb. This indicates that the media filter is required to capture any dissolved metals. Table 10: Removal With and Without Mixed Media Filter at 64 gpm. *Click here to contact us for the entire report.

CLEARWATER SOLUTIONS, INC. ClearWater BMP storm water filter Performance Test				
Table 10: Removal With and Without Mixed Media Filter at 64gpm.				
	"Typical" % Removal Filtered	"Typical" % Removal No Filter	"Worst-case" % Removal Filtered	"Worst-case" % Removal No Filter
TSS	97	96	65	64
O&G	86	78	38	0
Cu	28	49	33	0
Pb	81	78	14	0
Zn	83	85	56	0

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CLEARWATER SOLUTIONS®, INC
2259 Lone Oak Lane
Vista, CA 92084
800-758-8817

"NPDES compliant now and in the future!"

MAINTENANCE GUIDELINES For the ClearWater UNIT

INTRODUCTION

The ClearWater BMP unit is an important and effective component of your storm water management program and proper operation and maintenance of the unit is essential to demonstrate your compliance with local, state, and federal water pollution control requirements.

This is a patent-pending multi-media filtration design combined with pre-settling sedimentation containment and over flow by-pass protection. Water flow enters the unit and is directed into a pre-settling sedimentation chamber that collects heavy sediments and debris passing through the cover. Large trash and debris flow over the top into mesh trash baskets. The second and third sedimentation chamber is entered by the water flow to further settle lighter materials. The cleaner water then encounters the media filters. The media is a special blend of Perlite, Zeolite, and Activated Carbon that filters out a variety of organics, metals, and other contaminants from the runoff. Water then passes through the front of the treatment chamber into the catch basin. A properly maintained unit will achieve substantial reductions of contaminants from entering surface waters. To accomplish this, the filtration chamber is designed to handle 200 gpm through the media chamber, effectively handling up to 1" of rain per hour in a properly designed drain. Units strategically placed downstream from "hot spots" such as gas stations, parking lots and other industrial/commercial sites containing higher contaminate loadings, give municipalities and businesses an effective tool for reducing pollutants.

ClearWater BMP CLEANOUT

The frequency of cleaning the ClearWater BMP unit will depend upon the generation of trash and debris and sediments in your application. Cleanout and preventive maintenance schedules will be determined based on operating experience unless precise pollutant loadings have been determined. The unit should be periodically inspected to determine the amount of accumulated pollutants and to ensure that the cleanout frequency is adequate to handle the predicted pollutant load being processed by the ClearWater BMP unit. Cleanouts have been averaging two times per year in Southern California.

NEW INSTALLATIONS

Check the condition of the unit after every runoff event for the first 90 days. The visual inspection should ascertain that the unit is functioning properly (no blockages or obstructions to inlet), measuring the amount of solid materials that have accumulated in the trash collection nets and the amount of fine sediment accumulated in the settling areas. Schedules for inspections and cleanout should be based on storm events and pollutant accumulation.

ONGOING OPERATION

During the rainfall season, the unit should be inspected at least once every 60 days. The floatables should be removed and the settling areas cleaned when the primary settling chamber is 40%-50% full. If floatables accumulate more rapidly than the settleable solids, the floatables could be removed using a vactor truck. The trash baskets may need to be emptied more often, depending on the accumulation of larger trash and debris.

Cleanout of the ClearWater BMP unit at the end of a rainfall season is recommended because of the nature of pollutants collected and the potential for odor generation from the decomposition of material being collected and retained.

USE OF SORBENTS

The addition of sorbents is a unique enhancement capability special to ClearWater BMP units, enabling increased oil and grease capture efficiencies beyond that obtainable by conventional oil baffle systems.

RECOMMENDED OIL SORBENTS

The sorbent sock material should be replaced when it is fully discolored and hard from absorbing hydrocarbons. The sorbent may require disposal as a special or hazardous waste, but will depend on local and state regulatory requirements.

CLEANOUT AND DISPOSAL

A vactor truck is recommended for cleanout of the ClearWater BMP unit and can be easily accomplished in less than 15 minutes for most installations. Standard vactor operations should be employed in the cleanout of the ClearWater BMP unit. Disposal of material from the ClearWater BMP unit should be in accordance with the local municipality's requirements. Disposal of the decant material to a POTW is recommended. Field decanting to the storm drainage system is not recommended. Solids can be disposed of in a similar fashion as those materials collected from street sweeping operations and catch-basin cleanouts.

CONFINED SPACE

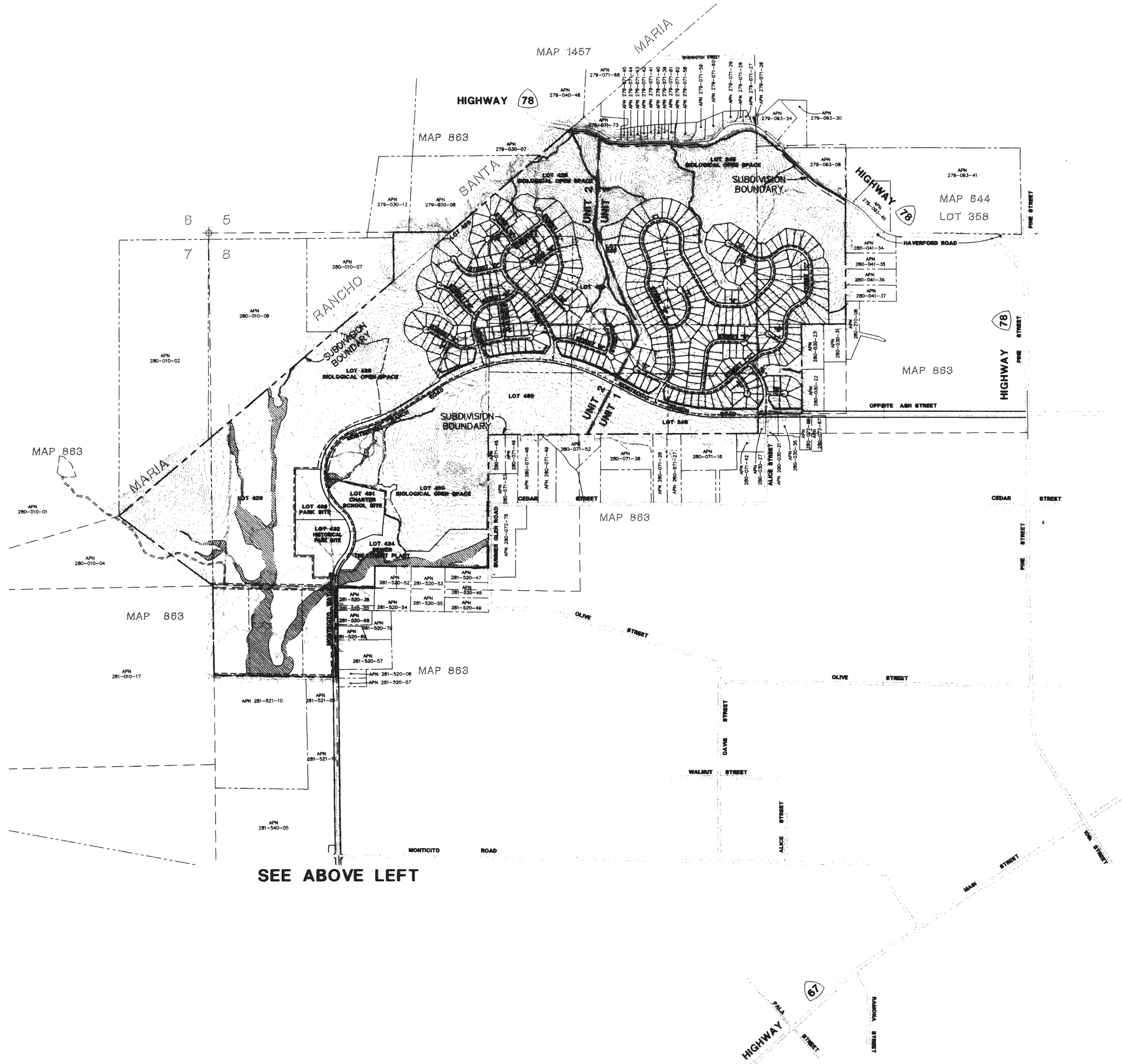
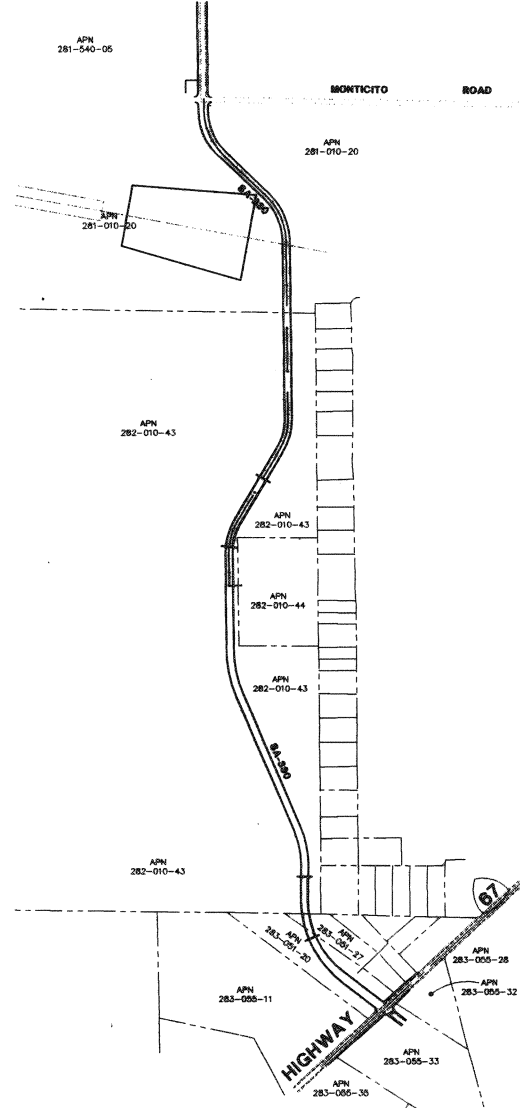
The ClearWater BMP unit is in a confined space environment and only properly trained personnel possessing the necessary safety equipment should enter the unit to perform maintenance or inspection procedures. Inspections of the components and maintenance procedures can, in most cases, be accomplished without confined space entry, through manhole access or directly through the curb inlet.

RECORDS OF INSTALLATION AND MAINTENANCE

CLEARWATER SOLUTIONS, INC. recommends that the owner maintain annual records of the operation and maintenance of the ClearWater BMP unit to document the effective maintenance of this important component of your storm water management program. The Installation and Maintenance Record form is suggested and should be retained for a minimum period of three years.



SEE BELOW RIGHT



SEE ABOVE LEFT

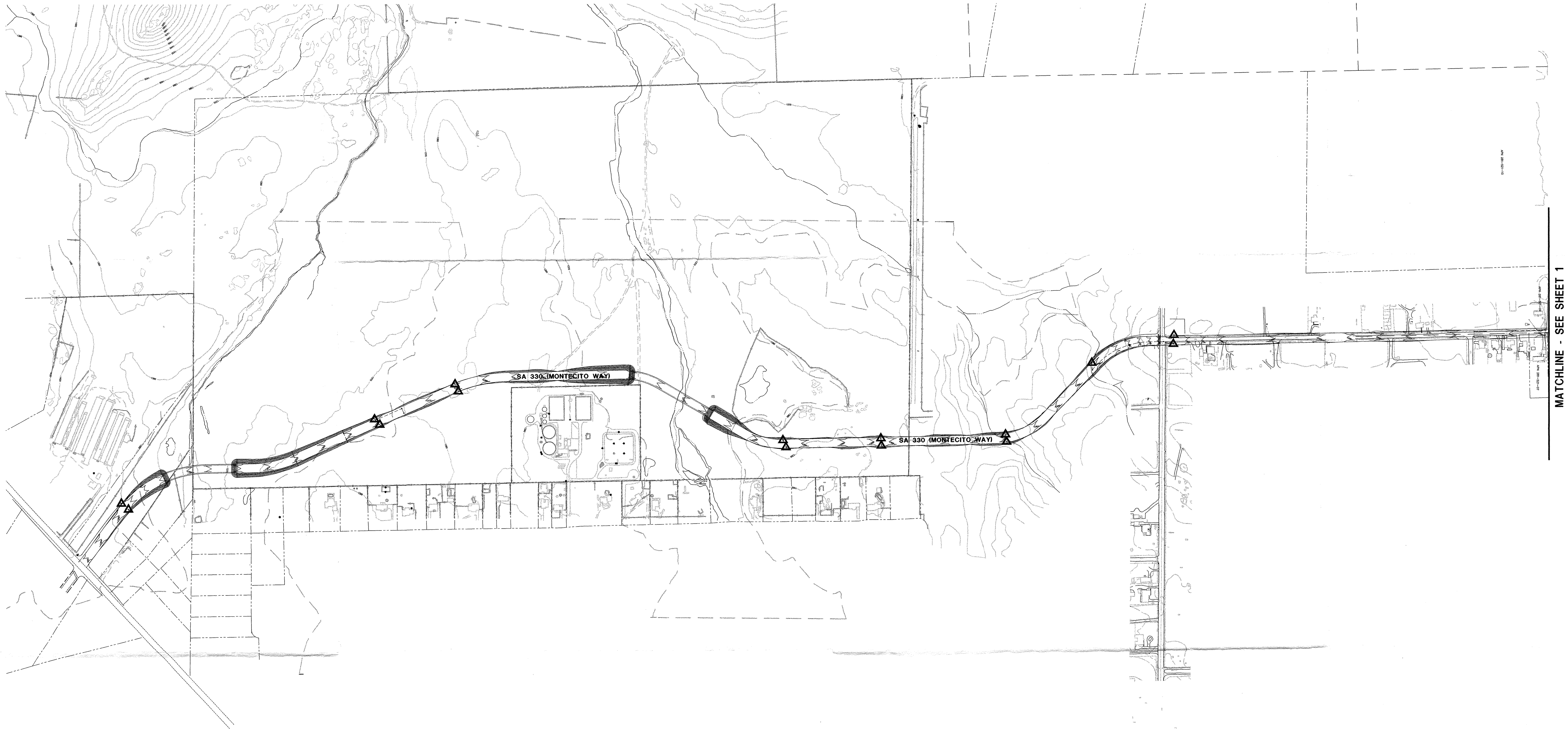
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REVISIONS	
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MONTECITO RANCH
SAN DIEGO, CALIFORNIA

SITE MAP

ATTACHMENT "D-2"
TREATMENT BMP LOCATION MAP



WATER QUALITY LEGEND:

- Storm Drain Line
- Bio Filtration (Naturally Vegetated Flow Paths)
- Existing Drainage Basin Boundaries
- Existing Drainage Basin Designation
- CATEGORY 4 BMP**
- Structural Treatment (CLEARWATER)**

**CLEARWATER FILTRATION DEVICES TREAT RUNOFF FROM PUBLIC MONTECITO RANCH ROAD AND MONTECITO WAY. THE TWO PROPOSED PUBLIC ROADWAYS BENEFIT THE LOCAL COMMUNITY AS A WHOLE, NOT JUST THE PROPOSED SUBDIVISION, AND AS A RESULT, THE CLEARWATER BMPs INSTALLED IN THOSE RIGHT-OF-WAYS WILL BE CLASSIFIED IN MAINTENANCE CATEGORY 4.

